

C2: Improving Broadband Connectivity for Tribal and Regional Colleges in New Mexico

Advisory Board Review

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Submitted by

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We were provided with an overview of progress to date and plans for completing the project. This included presentations by representatives from each of the campuses, as well as an overview of the education plans and evaluation plans. The slides and materials are available from the project.

Overall the project is progressing quite well with some delays that need to be monitored.

- signature for permissions for placing air radio at the Simms facility for NNMC
  - We believe it is important that this approval be granted to allow this project to provide the enhanced quality of Internet access needed to address the needs of the campus and community
- negotiations between NTC, the Navajo Nation, UNM and others
  - We are pleased to hear that discussions will occur in the next week to advance this project to provide the enhanced quality of Internet access needed to address the needs of the campus and community
  - This would demonstrate a significant leveraging opportunity by the C2 project
  - We would be concerned if the negotiations take much longer, as that may prevent the project from completing on time

NNMC was able to replace all of their old legacy IT infrastructure. WNMU was only able to replace half of their old legacy IT infrastructure. NTC is deploying a significantly enhanced off-campus infrastructure to link the campus with other campuses and the community.

All three campus IT groups have demonstrated an excellent understanding of the issues they are facing, have proposed deployment plans to directly address those issues, are tracking the impact of their implementations, and have plans to accomplish tasks with existing small numbers of staff. Each campus has demonstrated efforts in securing leveraged funding to augment the C2 resources. We applaud this and encourage continued efforts in this area.

As each campus enhances its infrastructure, it's critical that the campus and community are kept well informed of the new opportunities being made available to them and promote its near-term utilization.

We applaud the dual enrollment efforts using the ITV infrastructure and other distance education tools. We believe this will have an immediate broad impact that should be highlighted as an outcome of this project. We also congratulate the collective efforts to collaborate with high schools. These are a tremendous benefit to the project's education goals.

Each campus has been actively evaluating ways to minimize their costs while optimizing the value to their campus and community.

#### Recommendations:

- We strongly encourage the three campuses to continue discussions that have started with this meeting in order to share challenges, opportunities and diverse perspectives. For example, there is tremendous synergy for collaboration on networking solutions, distance learning opportunities, and long-term planning. This will put them all in a stronger position to secure additional funding to realize their vision.
- We applaud the efforts to integrate the C2 project into the state technology plan. We recommend that each campus continue to develop and/or update their long-term strategic cyberinfrastructure plans. This is an area in which collaboration among the campuses could be beneficial. This could also help drive the evolution of the state technology plan.
- We encourage promotional efforts to engage faculty and students in utilizing the enhanced capacity, and work with select faculty and students to realize the enhanced capabilities within the timeframe of this project that can be shared with the rest of the campus.
- We strongly encourage each campus to collect highlights of impact among faculty, students, IT staff, and the community. This could include impact on their research and education. For example, it is clear that the new infrastructure provided by the C2 grant at WNMU has empowered Peter Bill to build a new media lab that was not previously possible on the campus.
- The potential for closely collaborating with Comcast could be a great leveraging opportunity for WNMU to provide off-campus student and community access, as well as providing increased bandwidth into the campus.
- NNMC also have an excellent opportunity to leverage their collaboration with the Kit Carson Electric Coop and the Regional Development Corporation for long-term enhancements to the infrastructure. This will allow them to provide greater bandwidth over the long term to meet expected growth both on and off campus. This will allow them to further expand the distance education program.
- We strongly recommend that NNMC explore opportunities to leverage the enhanced IT infrastructure with the current distance learning initiative to improve distance learning and to avoid duplication of effort and expense.

- We encourage that the impact of the Gateways successes and materials be shared with the larger community.
- We encourage the investigation of Navajo culture courses (e.g. Navajo language) being developed and delivered (through the new infrastructure across the Navajo Nation and beyond) to meet general education requirements at NTC, UNM Gallup, and other campuses.
- We encourage continued engagement of K-12 teachers for the broadest impact over the long-term.
- The approach to developing modules seems quite compressed. A successful module development effort requires time to learn the new tools, time to test and refine based on classroom use, and then time to test in other classrooms to demonstrate the re-usability by other educators. Any such effort will need mentoring and tracking to ensure the team stays on task.
- We were pleased to see some student involvement in the C2 project, and encourage each campus to engage more students in the project activities.
- We encourage each campus to review the initial evaluation results and provide feedback on improvements on the next round of collection to best aid them in their planning.
- The project team needs to review and revise the evaluation metrics in the proposal plan as the proposed outcomes seem overly ambitious.
- We recommend that the team begin to develop a plan for what would be proposed to build upon this initial two-year effort.
- We recommend working now with faculty and the community in developing the applications (courses, modules) that can utilize the infrastructure and enhance research and education. Installation of the infrastructure alone is insufficient to realize the potential impact and project growth.
- We strongly encourage NSF to continue to support the C2 program to allow campuses to update and replace all legacy equipment to continue to address the rapidly evolving needs of faculty, students and the community. It is obvious that this C2 project has been very successful, but the current level of funding is not sufficient to address the existing needs, let alone the future CI requirements.

## Summary

Our overall assessment is that the project is well defined, is progressing well and in interesting directions, and we are optimistic that the project will achieve the stated goals. We look forward to seeing your collective progress next year.