

QUARTERLY PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

General Information

1. Federal Agency and Organizational Element to Which Report is Submitted Department of Commerce, National Telecommunications and Information Administration	2. Award Identification Number NT10BIX5570075	3. DUNS Number 969524214
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4. Recipient Organization University Corporation For Advanced Internet Development 1150 18th Street, NW, #1020, Washington, DC 20036-3825

5. Current Reporting Period End Date (MM/DD/YYYY) 06-30-2011	6. Is this the last Report of the Award Period? <input type="radio"/> Yes <input checked="" type="radio"/> No
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7. Certification: I certify to the best of my knowledge and belief that this report is correct and complete for performance of activities for the purposes set forth in the award documents.

7a. Typed or Printed Name and Title of Certifying Official Nili Tannenbaum	7c. Telephone (area code, number and extension) X
	7d. Email Address ntannen@internet2.edu

7b. Signature of Certifying Official Submitted Electronically	7e. Date Report Submitted (MM/DD/YYYY): 08-24-2011
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Project Indicators (This Quarter)

1. Please describe significant project accomplishments completed during this quarter (600 words or less).

Dark Fiber and Optical Network Implementation
 Internet2 worked with its vendors, Ciena Networks and Level3 Networks, to install and complete the coast-to-coast Phase 1 optical network. This included:

- Receipt and acceptance of Level3 fiber test result data
- Completion of all colocation facility builds and augments on the Phase 1 footprint
- Receipt, inventory and acceptance of all Phase 1 Ciena optical equipment in a staging facility in Broomfield, CO
- Installation, powering and IP connectivity to Phase 1 Ciena optical equipment
- Installation of 4 remote access management routers to provide IP reachability to the Internet2 NOC
- Order of Ciena optical equipment element management system (EMS)
- Order, delivery, and staging of Ciena optical element management system hardware platform
- Completion of optical system BER testing on Phase 1 optical segments east of Cleveland

IP Network Implementation

Completion of the the first phase of IP router upgrades: six Juniper MX 960 routers were replaced with Juniper T-1600 routers that will provide 100GigE backbone connectivity. All six of the swapped-out MX960 routers were repurposed into the Internet2 TransitRail-Commercial Peering Service (TR-CPS) network as part of the upgrade of aging routing hardware. Orders were placed for support equipment for the new Internet2 IP router node in Cleveland. Engineers installed the 100GigE interfaces in the IP routers to pre-position them for connectivity when the Internet2 Phase 1 optical build is complete.

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan, please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan (300 words or less).

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2a.	Overall Project	30	The overall project is lagging slightly for this particular quarter due to the length of time required to finalize contracts, as well as the need to realign our rate of purchases so that we do not incur operations costs for facilities longer than required before they have been put in production. We are making progress in improving this metric and expect to have expenditures on target by the end of the year.
2b.	Environmental Assessment	0	NA
2c.	Network Design	100	NA
2d.	Rights of Way	0	NA
2e.	Construction Permits and Other Approvals	0	NA
2f.	Site Preparation	0	NA
2g.	Equipment Procurement	30	Finalizing contracts has been a challenge for equipment purchase. We continue to lag slightly in equipment procurement due to extra time that has been necessary to complete contract negotiations and ensure proper installation arrangements. Although we have experienced delays in contract completion for both IRUs and equipment, the terms for these agreements have been finalized, and we are accelerating completion of purchasing, receiving, and paying for IRUs and equipment. We are projecting to be ahead of the baseline projection (45% vs 39.3%) by the end of Q3.
2h.	Network Build (all components - owned, leased, IRU, etc)	28	We continue to be ahead on this metric due to activities related to upgrading the peering portion of network facilities. Our baseline projections assumed a certain pace that has experienced some delays because of the difference between the dates when we committed to purchases versus the actual purchase orders and receipt. We anticipate being fully caught up by the end of the year. The Q2 2011 completion percentage reflects this.
2i.	Equipment Deployment	31	NA

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2j.	Network Testing	0	NA
2k.	Other (please specify):	0	NA

3. To the extent not covered above, please describe any challenges or issues faced during this past quarter in achieving planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

No additional challenges or issues have been faced during this past quarter in achieving planned progress against project milestones. We do not anticipate any problems or roadblocks that may delay achieving milestone projections in the next quarter.

4. Please report the following information regarding network build progress. Write "0" in the Total column and "N/A" in the Narrative column if your project does not include this activity. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (600 words or less).

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
New network miles deployed	0	NA
New network miles leased	4,828	63 miles less than baseline due to baseline discrepancy in overestimated mileage between Chicago and Cleveland
Existing network miles upgraded	0	NA
Existing network miles leased	0	NA
Number of miles of new fiber (aerial or underground)	0	NA
Number of new wireless links	0	NA
Number of new towers	0	NA
Number of new and/or upgraded interconnection points	24	As part of the 4,828 miles of new IRU fiber, we have secured 24 interconnection points. To be consistent with our approach for fiber deployment, we accept these as we accept colocation space.

For questions 5 and 6 please include information relating to agreements that you are negotiating or have entered into, or that your sub recipient, contractor or subcontractor is negotiating or entered into.

5a. If applicable, please provide the following information with regard to agreements with broadband wholesalers and/or last mile providers as a result of your project.

Indicators	
Number of signed agreements with broadband wholesalers or last mile providers	0
Number of agreements currently being negotiated with broadband wholesalers or last mile providers	0
Average term of signed agreements (in quarters)	0

5b. Please list the names of the wholesale and last mile providers with whom you have signed agreements (100 words or less). Providers: NA

5c. What wholesale services are being provided by this project? Please describe below. As an attachment to this report, please provide pricing plans (in \$ per month) associated with each wholesale service provided by your product (100 words or less). Wholesale services description:

Two 5 gigabit network connects \$32,500/mo
 One 10 gigabit network connection \$41,600/mo

Two 10 gigabit network connections \$45,500/mo

5d. If you have designated a third party to operate all or a portion of your network, please provide the name and contact information for this third party, indicate if this entity is a sub recipient, contractor, and/or subcontractor, and describe with specificity the portion of your network this this third party operates (600 words or less).

The Indiana University Global Research Network Operations Center, sub-recipient of the project, operates the network on behalf of Internet2. Their contact information is:

Dave Jent
Associate Vice President for Networks
Global Research Network Operations Center
535 W. Michigan Street
Indianapolis, IN 46202, USA
Phone: (317) 274-7788
Email: globalnoc@iu.edu

6. Please provide the data according to the type of subscriber. Write "0" in the Total column and "N/A" in the Narrative column if your project does not pass or serve a particular subscriber type. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the most recent reporting quarter. Please provide a narrative description if the total is different from the target provided in your baseline plan (300 words or less).

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
Broadband Wholesalers or Last Mile Providers	Providers with signed agreements receiving new access	0	NA
	Providers with signed agreements receiving improved access	20	The project had anticipated that one of the providers would split into two, resulting in an increase in this number. This did not occur.
	Providers with signed agreements receiving access to dark fiber	0	NA
	Please identify the speed tiers that are available and the number of subscribers for each	3	5 subscribers of two 5 gigabit network connections 6 subscribers of one 10 gigabit network connections 9 subscribers of two 10 gigabit network connections
Community Anchor Institutions (including Government institutions)	Total subscribers served	0	NA
	Subscribers receiving new access	0	NA
	Subscribers receiving improved access	0	NA
	Please identify the speed tiers that are available and the number or subscribers for each	0	NA
Residential / Households	Entities passed	0	NA
	Total subscribers served	0	NA
	Subscribers receiving new access	0	NA
	Subscribers receiving improved access	0	NA
	Please identify the speed tiers that are available and the number of subscribers for each	0	NA
Businesses	Entities passed	0	NA
	Total subscribers served	0	NA
	Subscribers receiving new access	0	NA

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
	Subscribers receiving improved access	0	NA
	Please identify the speed tiers that are available and the number of subscribers for each	0	NA

7. Please describe any special offerings you may provide (600 words or less).

The projects offers native IPv6 and IP multicast in addition to the normal IPv4 connectivity

8a. Have your network management practices changed over the last quarter? Yes No

8b. If so, please describe the changes (300 words or less).

NA

9. Community Anchor Institutions:

Using the table below, please provide a list by service area of the community anchor institutions (including Government institutions) connected to your network as a result of BTOP funds. Figures should be reported for the most recent reporting quarter only (NOT cumulatively). Also indicate whether your organization is currently providing broadband service to the anchor institution. Finally, provide a short narrative description with examples of how institutions are using BTOP-funded infrastructure (300 words or less).

Institution Name	Service Area (town or county)	Type of Anchor Institution (as defined in your baseline)	Are you also the broadband service provider for this institution? (Yes / No)	Narrative description of how anchor institutions are using BTOP-funded infrastructure
NA	NA	NA	NA	NA

Project Indicators (Next Quarter)

1. Please describe significant project accomplishments planned for completion during the next quarter (600 words or less).

Dark Fiber and Optical Network Implementation

Internet2 anticipates the completion of network testing and acceptance of the Phase 1 Optical installation and full commissioning of the system in a production capacity. Internet2 also anticipates the order of remaining dark fiber to substantially or fully complete the national dark fiber footprint. Internet2 should receive the majority of Phase 2 footprint dark fiber test results from Level3 communications and will be in the process of fiber acceptance. Internet2 will have placed orders for the Phase 2 optical equipment and begun receiving and inventorying equipment at the Level3 staging facility in Broomfield. Level3 will have received colocation orders from Internet2 and should have delivered a substantial amount of the Phase 2 optical build colocation. Internet2 anticipates that the initial Phase 2 optical installations will begin, with completion occurring the following quarter.

IP Network Implementation

Internet2 will light its first 100GigE IP backbone links in a production fashion and begin to transition traffic over to the new backbone links. Internet2 will also turn down the prior 10G backbone links. The TR-CPS network will continue to utilize the upgraded router equipment to obtain further commercial peerings. Internet2 will have installed a new IP router core node in Cleveland and integrated it into the network.

2. Please provide the percent complete for the following key milestones in your project. Write "0" in the Planned Percent Complete column and "N/A" in the Narrative column if your project does not include this activity. If you provided additional milestones in your baseline plan, please insert them at the bottom of the table. Unless otherwise indicated in the instructions, figures should be reported cumulatively from award inception to the end of the next reporting quarter. Please provide a narrative description if the percent complete is different from the target provided in your baseline plan (300 words or less).

Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2a. Overall Project	43	The overall project is lagging slightly for this particular quarter in expenditures due to the length of time required to finalize major contracts, and the need to realign our purchase rate so that we avoid operations costs for facilities longer than required before they have been put in production. We are making progress in improving this metric and expect expenditures be on plan in the near future.

	Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2b.	Environmental Assessment	0	NA
2c.	Network Design	100	NA
2d.	Rights of Way	0	NA
2e.	Construction Permits and Other Approvals	0	NA
2f.	Site Preparation	0	NA
2g.	Equipment Procurement	45	At this point the project has caught up and slightly passed the baseline.
2h.	Network Build (all components - owned, leased, IRU, etc.)	30	We expect to bring this on plan by the end of the year
2i.	Equipment Deployment	44	NA
2j.	Network Testing	0	NA
2k.	Other (please specify):	0	NA

3. Please describe any challenges or issues anticipated during the next quarter that may impact planned progress against the project milestones listed above. In particular, please identify any areas or issues where technical assistance from the BTOP program may be useful (600 words or less).

No challenges or issues are anticipated during the next quarter that may impact planned progress against project milestones.

Infrastructure Budget Execution Details

Activity Based Expenditures (Infrastructure)

1. Please provide details below on your total budget, cumulative actual expenditures (for the period ending the current quarter), and cumulative anticipated expenditures (for the period ending next quarter) for each line item, including detailed disbursements of both matching funds and federal funds from project inception through end of this quarter (actual) or next quarter (anticipated). Actual and anticipated figures should be reported cumulatively from award inception to the end of the applicable reporting quarter.

Budget for Entire Project				Actuals from Project Inception through End of Current Reporting Period			Anticipated Actuals from Project Inception through End of Next Reporting Period		
Cost Classification	Total Cost (plan)	Matching Funds (plan)	Federal Funds (plan)	Total Cost	Matching Funds	Federal Funds	Total Costs	Matching Funds	Federal Funds
a. Administrative and legal expenses	\$1,024,497	\$1,024,497	\$0	\$699,428	\$699,428	\$0	\$699,428	\$699,428	\$0
b. Land, structures, right-of-ways, appraisals, etc.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
c. Relocation expenses and payments	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
d. Architectural and engineering fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
e. Other architectural and engineering fees	\$9,113,965	\$5,170,096	\$3,943,869	\$1,286,652	\$1,286,652	\$0	\$1,686,652	\$1,686,652	\$0
f. Project inspection fees	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
g. Site work	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
h. Demolition and removal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
i. Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
j. Equipment	\$86,655,145	\$28,058,852	\$58,596,293	\$27,562,567	\$4,789,149	\$22,773,418	\$38,862,567	\$6,989,149	\$31,873,418
k. Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
l. SUBTOTAL (add a through k)	\$96,793,607	\$34,253,445	\$62,540,162	\$29,548,647	\$6,775,229	\$22,773,418	\$41,248,647	\$9,375,229	\$31,873,418
m. Contingencies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
n. TOTALS (sum of l and m)	\$96,793,607	\$34,253,445	\$62,540,162	\$29,548,647	\$6,775,229	\$22,773,418	\$41,248,647	\$9,375,229	\$31,873,418

2. Program Income: Please provide the program income you listed in your application budget and actuals to date through the end of the reporting period.

a. Application Budget Program Income: \$0

b. Program Income to Date: \$0