

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) 09-30-2012	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): 11-29-2012
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Project Indicators (This Quarter)

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

Internet2 completed the optical network build for the portions of the project built atop newly acquired dark fiber from Level3 Communications and Zayo Group. This completes the build of the common optical infrastructure and places the 100G capable optical system in full production. Internet2 also completed installation of 14 Layer2/3 nodes in August and September. This network, brought online on September 30th, provides the distributed access described in the application.

Internet2 continued to work with the NTIA on an alternative approach to providing the Northern Tier Networking Consortium (NTNC) portion of the footprint. Following NTIA approval of the approach, Internet2 expects to complete the NTNC portion of the project within the scheduled phase of the project and within budget.

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	91	Internet2 met the baseline for this metric.
2b.	Environmental Assessment	0	NA
2c.	Network Design	100	Network design was completed Year 1, Quarter 1.
2d.	Rights of Way	0	NA
2e.	Construction Permits and Other Approvals	0	NA
2f.	Site Preparation	0	NA
2g.	Equipment Procurement	97	Internet2 met the baseline for this metric.
2h.	Network Build (all components - owned, leased, IRU, etc)	99	Internet2 met the baseline for this metric.
2i.	Equipment Deployment	97	Internet2 met the baseline for this metric.
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).

Internet2 is waiting on an approval from the NTIA for a route change request initially submitted on July 26, 2012.

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	15,717	Internet2 originally didn't account for the 1,400 miles of fiber on the west coast from CENIC. At the time, the expectation was that the fiber transfer wouldn't be handled as a lease. We ultimately did structure the arrangement as a lease, so the updated number reflects those additional miles. In addition, the fiber route that was initially planned for Nashville to Dallas was

Indicator	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
		altered to a Nashville to Houston path, adding additional miles. The remainder is a true-up of the fiber distances initially provided by Level3.
Existing network miles upgraded	0	Internet2's network project for July, 2011 through October, 2012 does not include any upgraded mileage. The build has been based on new activation of existing IRUs and no operating infrastructure has been upgraded. Between October, 2012 and June, 2013, 2527 miles of existing network in the Northern Tier are slated to be upgraded.
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	52	Internet2 met the baseline for this metric.

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	22
Number of agreements currently being negotiated with broadband wholesalers or last mile providers	2
Average term of signed agreements (in quarters)	4

5b. Please list the names of the wholesale and last mile providers with whom you have signed agreements (100 words or less). Providers: 3ROX/Drexel; CENIC; CIC OmniPoP; FLR/SoX; GPN (Great Plains Network); Indiana GigaPoP; KyRON; LEARN (Lonestar Education and Research Network); LONI (Louisiana Optical Network Initiative); MAGPI; MAX (Mid-Atlantic Crossroads); MCNC/C-Light; OARnet; MREN (Metropolitan Research and Education Network); NOX (The Northern Crossroads); NYSERNet, Inc.; Oregon GigaPoP; Pacific Northwest GigaPoP; University of Memphis; Utah/Montana; Mississippi Institutions of Higher Learning; MisslON (Mississippi Optical Network); MARIA (Mid-Atlantic Research Infrastructure Alliance)

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, a contractor, 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	2	This number includes: Mississippi Institutions of Higher Learning and MARIA (Mid-Atlantic Research Infrastructure Alliance).
	Providers with signed agreements receiving improved access	20	Internet2 expects to report 2 additional connection by Y3Q2.
	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	7 subscribers of two 5 gigabit network connections 5 subscribers of one 10 gigabit network connections 10 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
	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 project offers native IPv6 and IP multicast in addition to the normal IPv4 connectivity. In addition the project is adding support for Software Defined Networking (SDN) and OpenFlow.

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).
 Internet2 expects to continue deployment and implementation of its 100G Layer2/Layer3 infrastructure throughout Q4 2012. This will likely include an additional 3-5 nodes to augment the existing footprint. In addition, Internet2 expects to fully migrate all of its pre-existing 10G customers off the legacy Internet2 optical system and onto the newly installed Ciena-based optical system that was completed in Q3 2012. Assuming approval from the NTIA, Internet2 expects to have portions of the Northern Tier Networking Consortium portion of the BTOP footprint underway for completion in 2013.

- a. New Network Miles Leased: 15,717
- b. Number of Signed Agreements with Middle Mile Carriers: 24

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	94	Internet2 expects to meet the baseline for this metric.
2b.	Environmental Assessment	0	NA
2c.	Network Design	100	Network design was completed Year 1, Quarter 1.
2d.	Rights of Way	0	NA
2e.	Construction Permits and Other Approvals	0	NA
2f.	Site Preparation	0	NA
2g.	Equipment Procurement	100	Internet2 expects to meet the baseline for this metric.
2h.	Network Build (all components - owned, leased, IRU, etc.)	100	Internet2 expects to meet the baseline for this metric.
2i.	Equipment Deployment	100	Internet2 expects to meet the baseline for this metric.
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).

In order to achieve planned progress against the remaining project milestones listed above, Internet2 needs approval from the NTIA for a route change request submitted on July 26, 2012.

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	\$3,170,031	\$3,170,031	\$0	\$3,520,000	\$3,520,000	\$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	\$83,877,012	\$23,989,349	\$59,887,663	\$86,400,000	\$24,500,000	\$61,900,000
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	\$87,746,471	\$27,858,808	\$59,887,663	\$90,619,428	\$28,719,428	\$61,900,000
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	\$87,746,471	\$27,858,808	\$59,887,663	\$90,619,428	\$28,719,428	\$61,900,000

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
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