

**QUARTERLY PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS**

**General Information**

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

<b>5. Current Reporting Period End Date (MM/DD/YYYY)</b>  12-31-2011	<b>6. Is this the last Report of the Award Period?</b>  <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.

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

<b>7b. Signature of Certifying Official</b>  Submitted Electronically	<b>7e. Date Report Submitted (MM/DD/YYYY):</b>  02-28-2012
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**Project Indicators (This Quarter)**

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

Internet2 continued to make progress on the program commitments for this sixth quarter of BTOP funding and continued work ahead of schedule on third year optical deployments during the last quarter of calendar year 2011. Internet2 has completed orders for all optical equipment needed for implementation of Phase 2 of the optical build. All of the Phase 2 optical equipment that was ordered in earlier quarters during 2011 arrived at the staging facility in Broomfield, CO. Approximately 40% of that equipment has now also been installed in the field and is undergoing test and turnup at the end of this quarter. This includes the segments from New York to Cleveland and Salt Lake City to Seattle. Internet2 provided nine individual 100Gbps wavelengths to connect community anchor institutions, including national labs, university campuses, and global research exchange points with an advanced networking conference in Seattle during October and November. One of the nine enabled wavelengths included the IP backbone circuit between Washington DC and Chicago.

Internet2 has received and accepted fiber test results for the following segments:

1. Atlanta to Washington DC
2. Cleveland to Buffalo
3. Buffalo to Albany
4. Baton Rouge to Tallahassee
5. Tallahassee to Jacksonville
6. El Paso to Denver
7. Los Angeles to Phoenix
8. Phoenix to El Paso
9. Houston to Jackson

This completes the delivery of the remaining primary fiber paths and makes them available to place in service with an optical system.

**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	55	<p>The overall project, in terms of expenditures, has exceeded the projection that was put in place last quarter, though it is lagging behind the baseline expectations. This is largely due to the timing of equipment procurement and work acceptance. Internet2 still expects the overall project to be substantially complete ahead of schedule. Internet2 is expecting to place orders for its third phase of optical networking equipment in the 3rd Quarter of Year 2. Deployment of that equipment is expected to be largely complete by Year 2, Quarter 4, nearly a year ahead of the project schedule projections.</p> <p>We expect to be at 87% at Year 2, Quarter 4. We expect to be at 100% before Year 2, Quarter 4.</p>
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	57	<p>Internet2 continues to improve on its schedule and execute equipment purchases as quickly as the deployment will allow. We expect this metric to level off relative to the baseline for the next two quarters, then surpass the baseline again in the 3rd and 4th quarters of year 2.</p>

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
2h.	Network Build (all components - owned, leased, IRU, etc)	81	We have purchased all the fiber IRUs for Phase 1 and Phase 2 and the majority of fiber for Phase 3. By Year 2, Quarter 3, we expect to purchase the remaining Phase fiber 3 to allow the project to complete ahead of schedule.
2i.	Equipment Deployment	57	While equipment procurement is trending ahead of the baseline, the deployment of the equipment is lagging due to the length of time to ship the equipment from Internet2's optical vendor. Internet2 expects to advance the schedule significantly in Year 2, Quarter 3 through the purchase of the majority of Phase 3 optical equipment. This equipment should be largely deployed by Year2, Quarter 4- roughly a year ahead of schedule
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).

While closing out bill payments and accounting to the highest standard still creates the perception of delay against the baseline.

We did not face any additional challenges or issues this past quarter in achieving planned progress against project milestones. We do not expect 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	7,521	Internet2 initially expected completion to happen in substantive chunks. As the project progresses, we are making incremental progress toward the Phase 2 total mileage of 10,280. This increase over the baseline represents that incremental progress.
Existing network miles upgraded	0	Internet2's network project for July, 2011 through June, 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 July, 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	29	As part of the 7,521 miles of new IRU fiber, we have secured 29 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		21	
Number of agreements currently being negotiated with broadband wholesalers or last mile providers		0	
Average term of signed agreements (in quarters)		0	
<p><b>5b. Please list the names of the wholesale and last mile providers with whom you have signed agreements (100 words or less). Providers:</b>                      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</p>			
<p><b>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:</b>                      Two 5 gigabit network connects \$32,500/mo                      One 10 gigabit network connection \$41,600/mo                      Two 10 gigabit network connections \$45,500/mo</p>			
<p><b>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 third party operates (600 words or less).</b>                      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</p>			
<p><b>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).</b></p>			
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	1	Mississippi Institutions of Higher Learning
	Providers with signed agreements receiving improved access	20	We have 2 Letters of Intent that may result in 2 additional connections by Year 3, Quarter 1.
	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 7 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

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
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).**  
**Dark Fiber and Optical Network Implementation**  
 Internet2 expects to order and receive all Ciena optical equipment needed for the project's Phase 3 deployment. After inventory and staging has completed, Internet2 expects to have the following segments installed and commissioned: Kansas City - Houston, Atlanta - Houston, and Salt Lake City to Los Angeles. Internet2 also expects that the majority of Phase 3 colocation facilities will be ordered and portions of the Phase 3 build to have begun.  
  
**IP Network Implementation**  
 Internet2 anticipates activation of a Chicago to Kansas City 100G in Year 2, Quarter 3.  
  
 a. New network miles leased: 10,280 miles

b. Number of signed agreements with middle mile carriers: 21

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	65	Internet2 is expecting to place orders for its third phase of optical networking equipment in the 3rd Quarter of Year 2. Deployment of that equipment is expected to be largely complete by Year 2, Quarter 4, a full year ahead of the project schedule projections.
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	68	Internet2 expects to procure all remaining Phase 3 equipment in Q12012.
2h.	Network Build (all components - owned, leased, IRU, etc.)	95	Network design was completed Year 1, Quarter 1.
2i.	Equipment Deployment	68	Internet2 expects to procure all remaining Phase 3 equipment in Q12012.
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).

We do not anticipate any challenges or issues next quarter that may impact planned progress against the milestones listed above.

**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	\$2,900,209	\$2,900,209	\$0	\$3,380,000	\$3,380,000	\$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	\$49,837,859	\$10,397,350	\$39,440,509	\$58,840,000	\$15,740,000	\$43,100,000
k. Miscellaneous	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>l. SUBTOTAL (add a through k)</b>	\$96,793,607	\$34,253,445	\$62,540,162	\$53,437,496	\$13,996,987	\$39,440,509	\$62,919,428	\$19,819,428	\$43,100,000
m. Contingencies	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<b>n. TOTALS (sum of l and m)</b>	\$96,793,607	\$34,253,445	\$62,540,162	\$53,437,496	\$13,996,987	\$39,440,509	\$62,919,428	\$19,819,428	\$43,100,000

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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