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

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) 09-30-2011	**6. Is this the last Report of the Award Period?** ◯ Yes ⦿ No

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):** 11-21-2011

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 continued to make progress on all phases of the BTOP project. The Phase 1 Optical equipment that was completed on time last quarter has been commissioned as of September 30th, 2011 and is beginning to come into service. Internet2 placed orders for all optical equipment needed for implementation of Phase 2 of the optical build. Roughly half of that equipment has arrived as of September 30th, 2011-with the remaining balance set to arrive by the end of October in the next quarter. Approximately 80% of the Phase 2 colocation has been ordered for delivery during the next quarter. Internet2 is beginning installation of the Phase 2 Optical equipment the week of September 26th, 2011. Most of the Phase 2 installation will occur during the next quarter.

Internet2 has received fiber test results for Los Angeles to Salt Lake City, Memphis to Nashville, Houston to Dallas, and the Houston Metro loop.

IP Network Implementation
Internet2 put its first 100Gbps link between New York and Washington into service on September 30th, 2011. The prior 10Gbps backbone links were left in service, but should be removed in the following quarter. Internet2 opted to delay the installation of the Cleveland node until a later date in order to utilize the optical transceivers elsewhere in the network. Internet2 plans to put the Cleveland router in service in Year 2, Quarter 3. The TR-CPS network will continue to utilize the upgraded router equipment to obtain further commercial peerings.

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	44	The overall project, in terms of expenditures, is lagging slightly for this particular quarter due to the length of time required to finalize major 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. Equipment procurement for the overall project construction is likely to end a year ahead of schedule, so we expect to surpass the baseline expectations in the 3rd or 4th quarter of Year 2.
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	46	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.
2h.	Network Build (all components - owned, leased, IRU, etc)	70	We have purchased all the fiber IRUs for Phase 1 and Phase 2. 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	31	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. Much of the equipment is fabricated in real-time in response to the purchase order. Internet2 anticipates the deployment percentage will increase in Year 1, Quarter 2 and will ultimately end up ahead of the baseline in Year2, Quarter 3.
2j.	Network Testing	0	NA

	Milestone	Percent Complete	Narrative (describe reasons for any variance from baseline plan or subsequent written updates provided to your program officer)
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).

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	4,891	NA
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 build to date and no existing infrastructure has been upgraded. Between July, 2012 and June, 2013, 2527 miles of 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	24	As part of the 4,891 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	21
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:
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

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**	1	During the current period, Internet2 worked with the Board of Directors for the Mississippi Institutions of Higher Learning to complete an agreement for two 10 gigabit network connections. This represents a significant achievement to bring the national research and education high capacity network capacity to Mississippi for the first time.
	Providers with signed agreements receiving improved access	20	NA
	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
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

Subscriber Type	Access Type	Total	Narrative (describe your reasons for any variance from the baseline plan or any other relevant information)
	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 receive the all remaining optical equipment shipments for Phase 2 at its staging facility in Broomfield, CO. After inventory and staging has completed, Internet2 expects to have the following segments installed and commissioned: Salt Lake City to Seattle, New York City to Cleveland. The path between Kansas City and Houston should be installed, but may not be completely commissioned. The remainder of the Phase 2 equipment will be deployed in Year 2, Quarter 3.

IP Network Implementation
Internet2 expects to enable the Upgraded 100Gbps IP backbone between Washington DC and Chicago in November.

Key Indicators
a. New Network Miles Upgraded: Internet2's network project for July, 2011 through June, 2012 does not include any upgraded mileage. The build has been based on new build to date and no existing infrastructure has been upgraded. Between July, 2012 and June, 2013, 2527 miles of network in the Northern Tier are slated to be upgraded.
b. New Network Miles Leased: 4891
c. Number of signed agreements with broadband wholesalers or last mile providers: 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)

	Milestone	Planned Percent Complete	Narrative (describe reasons for any variance from baseline plan or any other relevant information)
2a.	Overall Project	54	Our build-out process continues to be on schedule, even ahead of schedule. The buildout schedule includes designing and engineering the segments of the network installation, ordering equipment, receiving and testing equipment, deploying and installing equipment, and final installation testing. Approval and acceptance of all aspects of this process provides the trigger for releasing final payment to vendors. However, in an effort to make certain all of the details in all segments of the build are addressed to our satisfaction, acceptance is withheld until all questions are answered and all remedial actions taken. Payment (expenditure of project dollars) will catch up but currently lags behind the actual production due to the issues noted above.
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	55	This number is slightly behind baseline because approval and acceptance of the equipment determine when payment is made.
2h.	Network Build (all components - owned, leased, IRU, etc.)	70	This metric represents the total % of IRUs paid for against the total IRU budget. All segments required for the current phase have been ordered.
2i.	Equipment Deployment	55	This number is slightly behind baseline because approval and acceptance of the equipment determine when payment is made. Actual deployment is on schedule.
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.

Cost Classification	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		
	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	$2,455,882	$2,455,882	$0	$3,555,882	$3,555,882	$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	$39,956,741	$6,355,610	$33,601,131	$47,956,741	$9,155,610	$38,801,131
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	$43,112,051	$9,510,920	$33,601,131	$52,212,051	$13,410,920	$38,801,131
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	$43,112,051	$9,510,920	$33,601,131	$52,212,051	$13,410,920	$38,801,131

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