

QUARTERLY PERFORMANCE PROGRESS REPORT FOR BROADBAND INFRASTRUCTURE PROJECTS

General Information

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| 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 |
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| 5. Current Reporting Period End Date (MM/DD/YYYY) 03-31-2013 | 6. Is this the last Report of the Award Period? <input type="radio"/> Yes <input checked="" type="radio"/> 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 |

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|---|--|
| 7b. Signature of Certifying Official Submitted Electronically | 7e. Date Report Submitted (MM/DD/YYYY): 05-21-2013 |
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Project Indicators (This Quarter)

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

Internet2 deployed and commissioned three more Layer2/Layer3 aggregation nodes. In addition, Internet2 began pre-deployment activities for a further five L2/L3 node installs to occur in April and May. Internet2 also upgraded its Layer3 routing equipment in seven of ten cities by the end of March. The remaining three upgrades will occur in April and early May. Zayo made significant progress in completion of the Northern Tier build between Chicago and Seattle and is expected to complete handover in May.

AL2S Deployed: 17
 AL2S Commissioned: 17
 AL2S Overall Total: 22

AL3S Deployed: 10
 AL3S Commissioned: 10
 AL3S Overall Total: 10

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 | 95 | 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 | 94 | All equipment has been procured. Expenditures are slightly lagging behind the baseline. |
| 2h. | Network Build (all components - owned, leased, IRU, etc) | 100 | Internet2 met the baseline for this metric. |
| 2i. | Equipment Deployment | 94 | All equipment has been deployed. Expenditures are slightly lagging behind the baseline. |
| 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).

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 |

| Indicator | Total | Narrative (describe your reasons for any variance from the baseline plan or any other relevant information) |
|--|--------|---|
| New network miles leased | 14,314 | A route change was submitted to and is pending approval by the NTIA to account for the difference with the baseline. |
| 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 1Q2013 and June, 2013, 2463 miles of existing optical fiber network in the Northern Tier are slated to be upgraded by installing new BTOP equipment. |
| 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 | 1 |
| 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; MARIA (Mid-Atlantic Research Infrastructure Alliance); MAX (Mid-Atlantic Crossroads); MCNC/C-Light; MissiON (Mississippi Optical Network); MREN (Metropolitan Research and Education Network); NOX (The Northern Crossroads); NYSERNet, Inc.; OARnet; Oregon Gigapop; Pacific Northwest GigaPoP; University of Memphis; Utah/Montana

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 | 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; MissION (Mississippi Optical Network) |
| | 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 of 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 install the remaining five Layer2/Layer3 aggregation nodes in the April/May timeframe. In addition, Internet2 expects the three remaining Layer3 routers to be fully upgraded by early May. Internet2 also expects completion of the Zayo-partnered northern tier build in the late April timeframe. This will conclude all project deliverables before the project close at the end of June.

- a. New Network Miles Leased: 14,314
- b. Number of Signed Agreements with Middle Mile Carriers: 24
- c. Number of Network Miles Upgraded: 2463
- d. Meet LM/Wholesale Provider Agreements?: Yes

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 | 100 | 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 | NA |
| 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).

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 | \$504,833 | \$504,833 | \$0 | \$504,833 | \$504,833 | \$0 | \$504,833 | \$504,833 | \$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 | \$6,895,819 | \$1,956,809 | \$4,939,010 | \$6,934,452 | \$6,409,307 | \$525,145 | \$6,934,452 | \$6,409,307 | \$525,145 |
| 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 | \$89,392,955 | \$31,791,803 | \$57,601,152 | \$84,513,328 | \$23,140,804 | \$61,372,524 | \$89,354,322 | \$27,339,305 | \$62,015,017 |
| 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 | \$91,952,613 | \$30,054,944 | \$61,897,669 | \$96,793,607 | \$34,253,445 | \$62,540,162 |
| m. Contingencies | | | | | | | | | |
| n. TOTALS (sum of l and m) | \$96,793,607 | \$34,253,445 | \$62,540,162 | \$91,952,613 | \$30,054,944 | \$61,897,669 | \$96,793,607 | \$34,253,445 | \$62,540,162 |

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 |
|---|--------------------------------|