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Broadband Stimulus Update | May 29 2009

Any information in this presentation regarding future product plans is based on current expectations, but is not a commitment, promise or legal obligation to deliver any new product (hardware or software), feature, or functionality. The development and release of any new product, feature, or functionality remains at Calix's sole discretion, and no statements in this document should be relied upon in making purchase decisions.

Welcome to the May 29 2009 Calix Broadband Stimulus Update Webinar

- ▶ Broadband Stimulus Update webinars, events, and online resources focused on providing:
 - ▶ *Up-to-date insights and information on national, state, and local Stimulus information*
 - ▶ *An unbiased, reliable, and fact-based resource*
 - ▶ *A forum to ask questions and share information*
 - ▶ *Calix sales teams and field marketing resources can review one-on-one at any time*
- ▶ How to ask questions
 - ▶ *Conference bridge is broadcast for attendees to prevent excess noise, complexity*
 - ▶ *Webinar control panel has Q&A module*
 - ▶ Type questions at anytime - monitored by Calix personnel
 - ▶ Questions will be placed in queue for verbal Q&A response section
 - ▶ Presenters may answer questions during the presentations if time allows
 - ▶ Any questions not answered during this session will be answered via e-mail follow-up



Friday, May 29

- ▶ **Recap and Polling Introduction**
- ▶ **Key Recent Development and Outstanding Issues**
- ▶ **Polling Results – How Are Your Peers Reacting to Stimulus?**
- ▶ **Next Steps – What to Expect and Common Questions**
- ▶ **Continuing to Think Strategically**
- ▶ **Broadband Stimulus Q&A**

Goal: Reliable, unbiased resources and perspective

- ▶ Broad rural presence, footprint, and direct customer relationships place Calix in a unique position
 - ▶ *Aggregate perspectives and monitor activities (state, customer size, business model) from across the nation*
- ▶ Created an internal team focused on educating and assisting customers and their consulting engineers
 - ▶ *Assistance in securing Stimulus funds for their projects*
- ▶ Regional / National sales teams are being updated weekly
- ▶ Resources are being dedicated to provide:
 - ▶ *Frequent updates on the Stimulus fund details and processes*
 - ▶ *Speaking engagements at state association conferences and webinars*

(Next: FTTH Council Service Provider Day June 3rd, Tri-State June 9th)

 - ▶ *Web site page on Broadband Stimulus at:*
www.calix.com/bbs/



Go to www.calix.com/bbs/ for the latest updates and information

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Home > News & Events > Broadband Stimulus

Broadband Stimulus, Calix, and You

Broadband Stimulus in the U.S. is now a reality. This historic legislation, signed into law by President Obama on February 17, promises to have an immediate and profound impact on broadband deployment in 2009 and for years to come.

As the leading advanced broadband solutions provider to rural America, Calix is following Broadband Stimulus developments closely. We are committed to sharing the latest information available on this bill with our customers and supporting them as they seek the available grants, loans, and loan guarantees.

We invite you to return to this web page periodically to stay up-to-date on this major new catalyst to U.S. broadband deployment.

Poll Question

If you are planning to apply for funds, which agency will you be approaching?

Broadband Stimulus Update

NEXT WEBINAR IN SERIES: FRIDAY, MAY 29

Calix Broadband Stimulus Update: Next Steps

Continuing our Broadband Stimulus Webinar series, we'll provide further review and analysis of the latest updates relating to this landmark legislation, and how to position your company and your network for long-term strategic advantage.

The 90-minute webinar will start at 10 AM Pacific Daylight Time (11 Mountain, 12 Central, 1 PM Eastern). You must register in advance, and your attendance requires Calix approval. Upon approval, you'll receive a personalized e-mail link to the webinar.

> [Register for Calix Broadband Stimulus Update Webinar May 29](#)

WEBCAST OF MARCH 10 EVENT

View Webcast of Joint NTIA/RUS Process and Application Conference in Washington, DC

A public conference on Broadband Stimulus processes and applications for NTIA and RUS funding was held on Tuesday, March 10 in Washington, DC. A webcast of the meeting is available on the NTIA website:

> <http://www.ntia.doc.gov/broadbandgrants/>

MORE SPECIAL BROADBAND STIMULUS EVENTS

Where to Learn More

Calix Broadband Stimulus Update Webinar April 17

View the webinar recording (Windows Media Player required; duration 1:47)

View the slides (PDF)

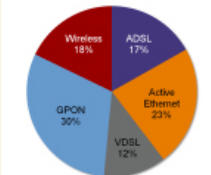
Calix Broadband Stimulus Update Webinar March 20

View the webinar recording (Windows Media Player required; duration 1:17)

View the slides (PDF)

View poll results from webinar

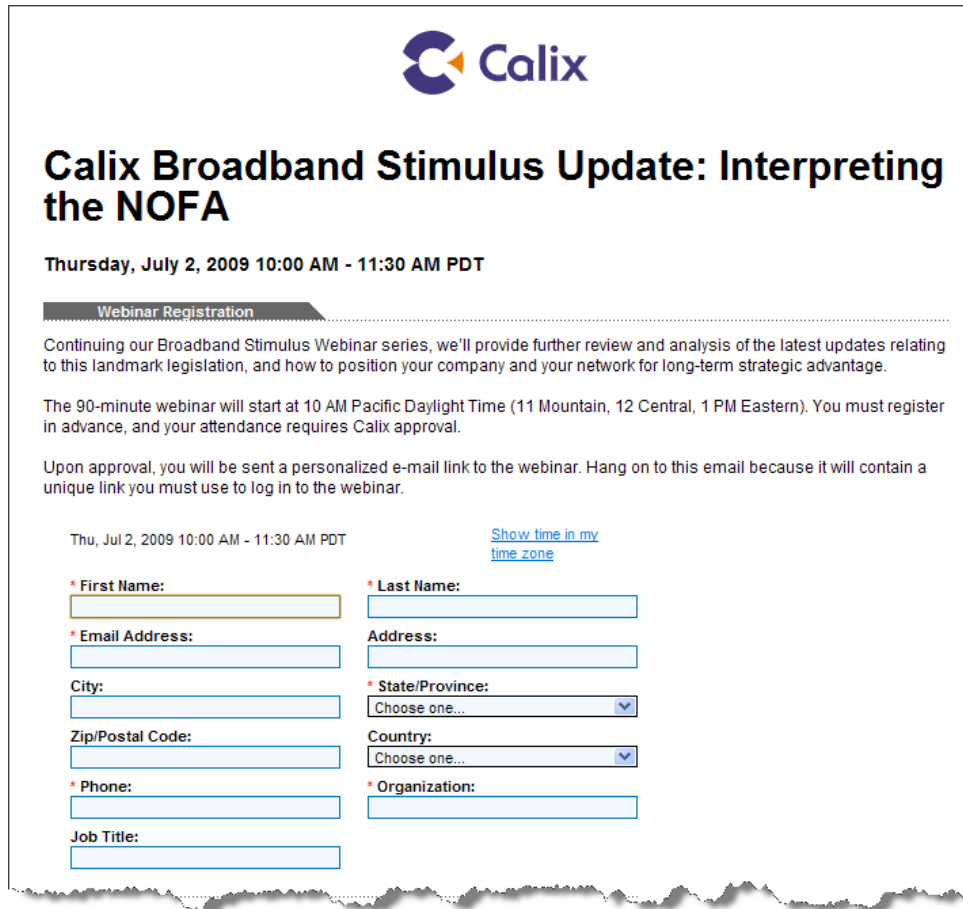
Technologies planned for Stimulus proposal




Technology	Percentage
Wireless	18%
DSL	17%
GPON	30%
Active Ethernet	23%
VDSL	12%

Calix Broadband Stimulus Update

Registration link will be on Calix website





Calix Broadband Stimulus Update: Interpreting the NOFA

Thursday, July 2, 2009 10:00 AM - 11:30 AM PDT

Webinar Registration

Continuing our Broadband Stimulus Webinar series, we'll provide further review and analysis of the latest updates relating to this landmark legislation, and how to position your company and your network for long-term strategic advantage.

The 90-minute webinar will start at 10 AM Pacific Daylight Time (11 Mountain, 12 Central, 1 PM Eastern). You must register in advance, and your attendance requires Calix approval.

Upon approval, you will be sent a personalized e-mail link to the webinar. Hang on to this email because it will contain a unique link you must use to log in to the webinar.

Thu, Jul 2, 2009 10:00 AM - 11:30 AM PDT [Show time in my time zone](#)

* First Name:	<input type="text"/>	* Last Name:	<input type="text"/>
* Email Address:	<input type="text"/>	Address:	<input type="text"/>
City:	<input type="text"/>	* State/Province:	<input type="text" value="Choose one..."/>
Zip/Postal Code:	<input type="text"/>	Country:	<input type="text" value="Choose one..."/>
* Phone:	<input type="text"/>	* Organization:	<input type="text"/>
Job Title:	<input type="text"/>		



Calix believes rural service providers are uniquely positioned

- ▶ Stimulus will greatly expand the available dollars for rural broadband
- ▶ Both programs will prioritize projects that can be completed quickly by an entity that **can demonstrate its ability to carry out the project**
- ▶ Rural service providers are ideal candidates:
 - ▶ *Already have projects identified*
 - ▶ *Working relationships with CEs*
 - ▶ *Focused on serving the public interest*
 - ▶ *Good relationships with local communities and institutions*
 - ▶ *Have the operational skills to design, construct and operate*
 - ▶ *Have the financial resources for the 10-20% match*
 - ▶ *Have developed working models for private-public partnerships*



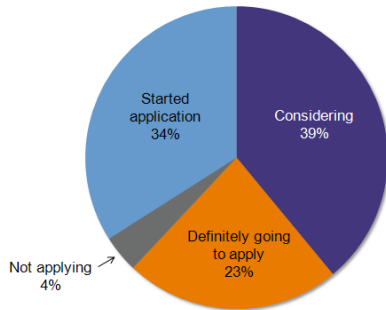
Play your hand properly

- ▶ Know your requirements
 - ▶ *Think strategically about your network*
- ▶ Know their (RUS/NTIA) requirements
 - ▶ *Shovel ready...Create jobs...Competent...Serve the public interest*
- ▶ Know your strengths
 - ▶ *Relationships: Local/community/state*
 - ▶ *History of success*
 - ▶ *Vendor ecosystem*
 - ▶ *Leverage your **relationships with your consulting engineers***
- ▶ Consider maximizing your hand
 - ▶ *Think **BIG** – Under enormous pressure to perform – help them help you*
 - ▶ *Think **STRATEGICALLY** – Deep fiber, plan for the future*
 - ▶ *Think **BROADLY** – Leverage **community, relationships, vendors, partners***

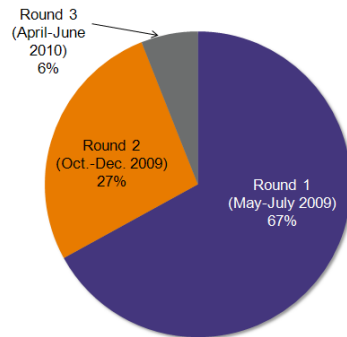
Unique perspectives on Broadband Stimulus

- Two rounds of customer polling conducted during Broadband Stimulus webinars
- Significant sample size (~300 IOCs, Munis, CLECs) across US

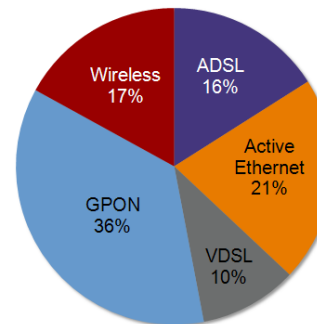
What stage of the process are you in now?



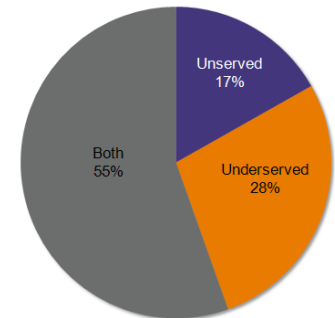
What Stimulus round are you aiming for?



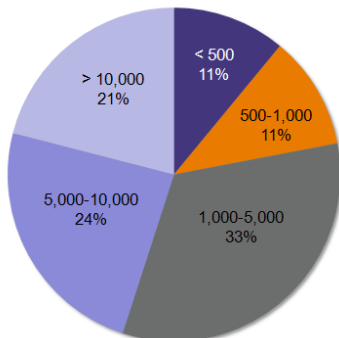
Technologies planned for Stimulus proposal



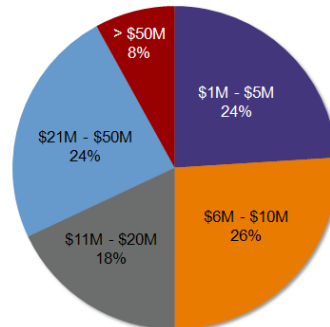
What type of region will be the main focus?



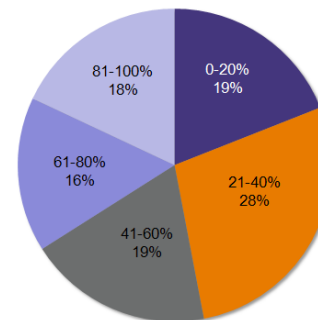
How many premises will your project pass?



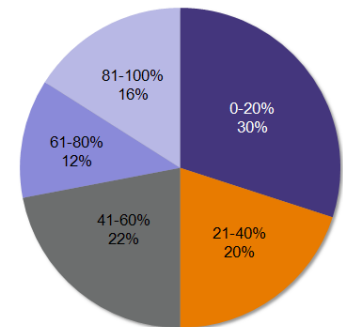
Estimated size of funding request



What % of company-wide CAPEX will be Stimulus funds?



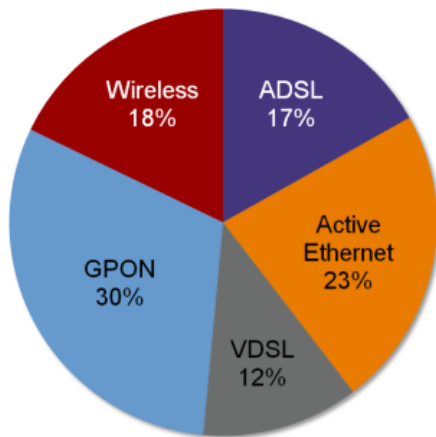
What % of access CAPEX will be Stimulus funds?



Observations

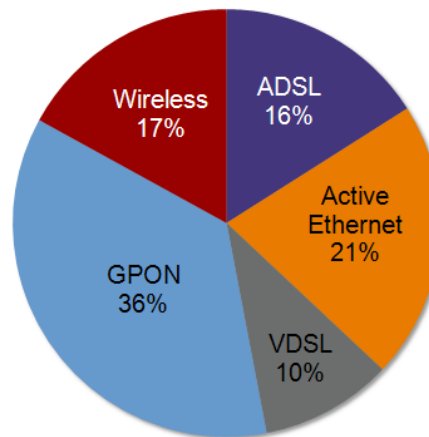
- ◀ Fiber predominates, but a mix of technologies will be used...including wireless
- ◀ Within fiber-to-the-home technologies, GPON clearly leads (84%)
 - ▶ Active Ethernet commonly used as a complementary technology for specific applications (61%)
 - ▶ Frequency of other technologies: Wireless (34%), ADSL2+ (29%), VDSL2 (26%)

Technologies planned for Stimulus proposal



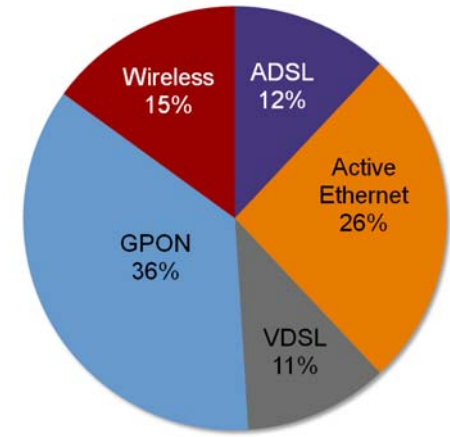
March 20

Technologies planned for Stimulus proposal



April 17

Technologies planned for Stimulus proposal

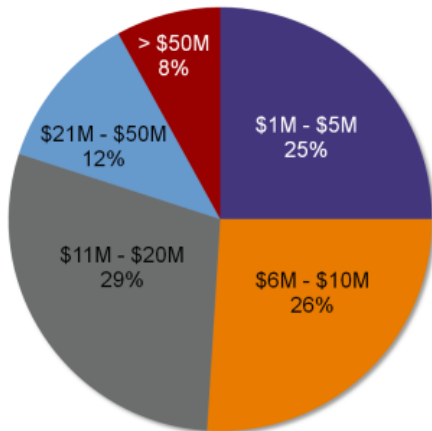


May 15

Observations

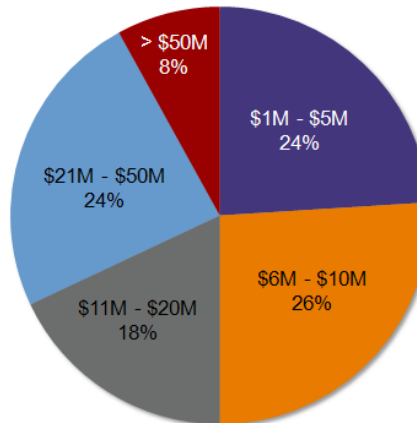
- 50%+ report proposals in excess of \$11M dollars → Service providers thinking big

Estimated size of funding request



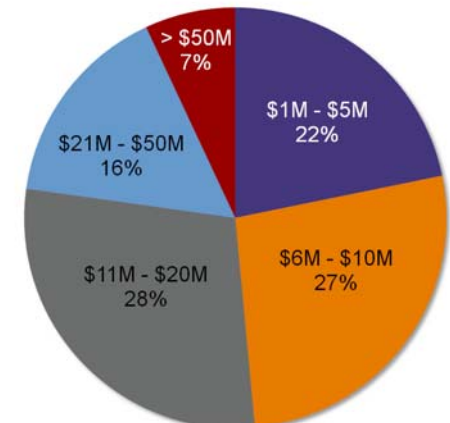
March 20

Estimated size of funding request



April 17

Estimated size of funding request

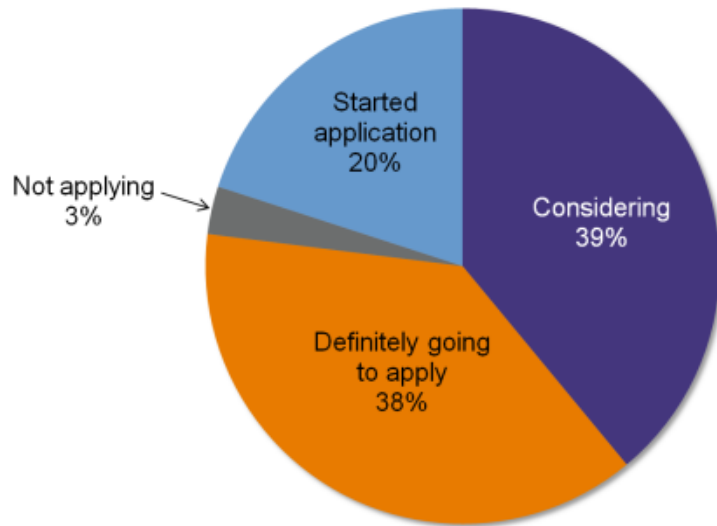


May 15

Observations

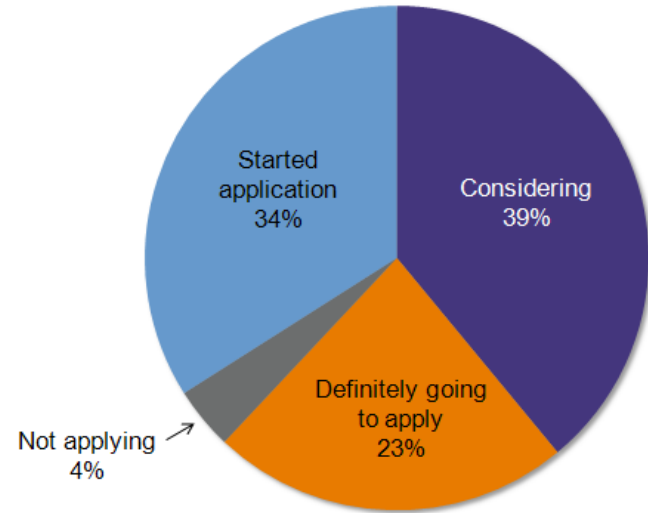
- ◀ Nearly 60% are committed to applying
- ◀ Most have already started their application

What stage of the process are you in now?



March 20

What stage of the process are you in now?

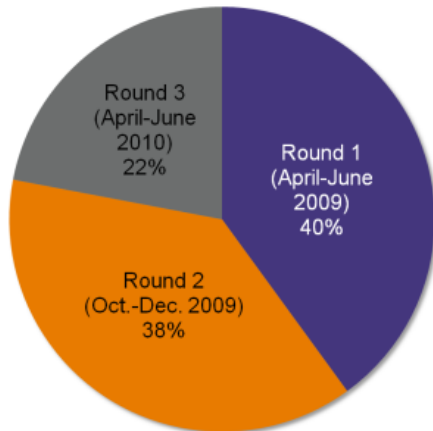


April 17

Observations

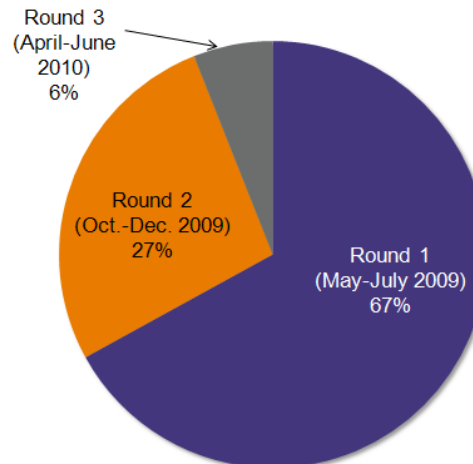
- ▶ Rural operators plan to apply early and often
 - ▶ *Frequency: Round 1 (68%), Round 2 (58%), Round 3 (29%)*
- ▶ Most service providers planning to participate in round 1
- ▶ Delays may have helped make round 1 more accessible

What Stimulus round are you aiming for?



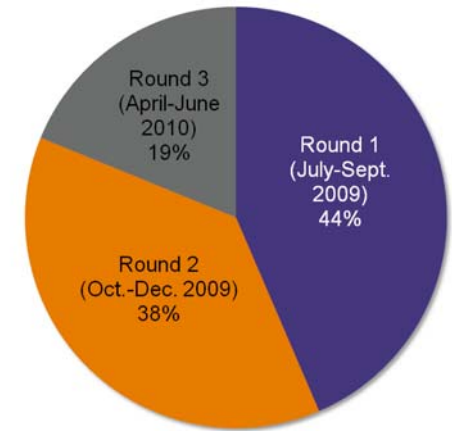
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What Stimulus round are you aiming for?



April 17

What Stimulus round are you aiming for?

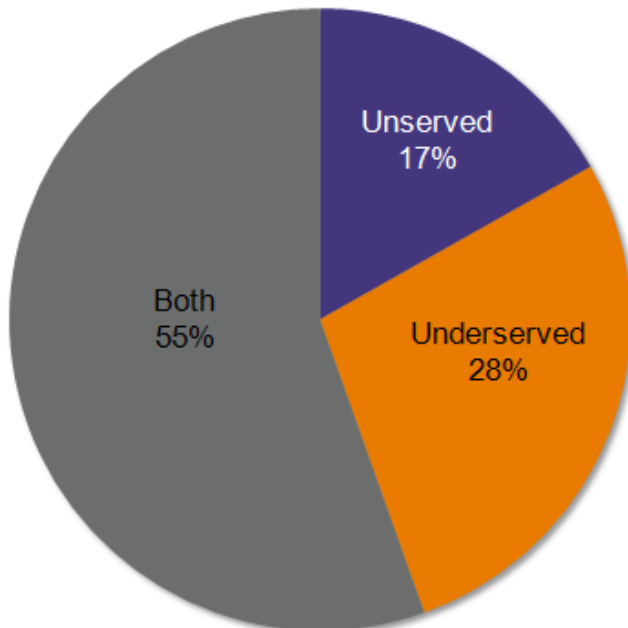


May 15

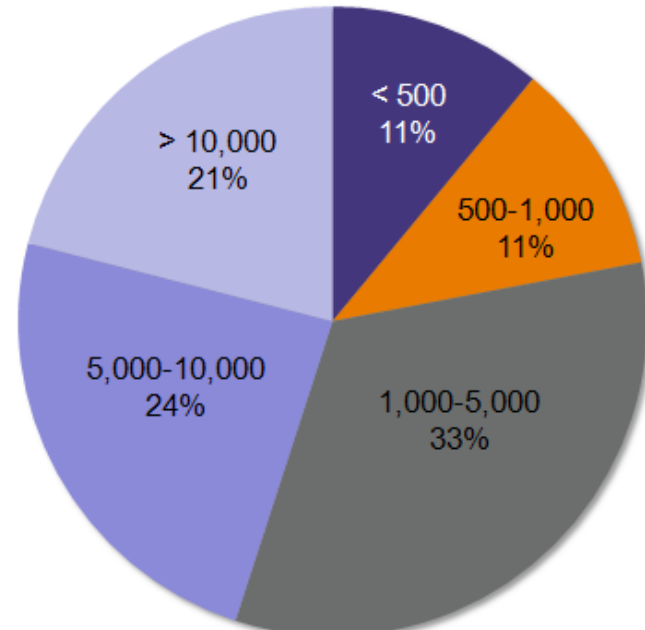
Observations

- Projects predominately will focus on BOTH “unserved” and “underserved” areas
- 1/3rd of projects to focus on 1,000-5,000 premises (homes and businesses), but nearly 50% targeting greater than 5,000 premises

What type of region will be the main focus?



How many premises will your project pass?



Poll question:

What stage of the Stimulus process
are you in now?

Poll question:

What round of the Stimulus
are you aiming for?

(You can select more than one.)

Poll question:

What type of region will be the main focus of your project?

Phase 1 – Understanding and interpretation

- ▶ Track evolution of ARRA
- ▶ Critically analyzing information and perspectives

DONE

Phase 2 – Education and positioning

- ▶ Attend webinars, events, meetings
- ▶ Leverage power of the web
- ▶ Submit comments
 - ▶ *RUS/NTIA and National Broadband Policy*
- ▶ Meet with local and state officials

CONTINUING

Phase 3 – Implementation and preparation

- ▶ Develop a formal business plan
 - ▶ *Technology, marketing, financial, future*
- ▶ Pull together end-to-end solutions
- ▶ Understand and minimize roadblocks and logistical challenges
- ▶ Mitigate risks and execute projects

UNDERWAY

- ▶ **Have the dates for Broadband Stimulus awards been delayed?**
- ▶ **Has any additional information become available on the rules or the application process?**
 - ▶ *Job creation*
 - ▶ *“Buy American” language*
- ▶ **What did the FCC’s Rural Broadband Policy report to Congress say?**
- ▶ **What else is Calix doing to help customers with their applications?**
- ▶ **Is Calix going to be able to meet Stimulus award winner delivery and production requirements?**

YES: Based on the www.recovery.gov website

- ◀ Recent updates to the NTIA portion of the website indicate:
 - ▶ *The initial grant application period: September - the 4th calendar quarter*
 - ▶ *First grants will be issued in December*
- ◀ The RUS portion of the recovery.gov website states:
 - ▶ *Goal of awards being made by the end of the calendar year*

MAYBE: Based on public comments

- ◀ NTIA's quarterly (May 17th) report to Congress on the Broadband Technology Opportunities Program (BTOP):
 - ▶ *Application period would be July-September*
 - ▶ *Grants awarded in calendar Q4*
- ◀ Ken Kuchno, Director – RUS Broadband Division, stated at the Broadband Properties Summit in Dallas that RUS hoped to issue its first awards by the end of September

◀ **RUS & NTIA** (based on recovery.gov)

- ▶ **June 12 & 30** – Program support contractors retained (RUS & NTIA)
- ▶ **Late June** – Release rules and issue NOFAs
- ▶ **July-August** – Regional workshops for potential applicants
- ▶ **September-December**– Tranche 1 application window
- ▶ **October-December**- Tranche 2 application window
- ▶ **December** – Issue 1st tranche awards
- ▶ **April-June 2010** Tranche 3 application window

◀ **NTIA**

- ▶ **May 18** – Broadband Technologies Opportunities Report to Congress
- ▶ **August 17** – Next quarterly report to Congress
- ▶ Complete National Broadband Plan with FCC (2/17/2010), Broadband Map (2/17/2011)

◀ **FCC**

- ▶ **May 22** – Rural Broadband Policy Report submitted to Congress
- ▶ **June 8** – National Broadband Policy public comment period closes
- ▶ **July 7** – National Broadband Policy reply comments due

President's Council of Economic Advisers

- ◀ A report issued in May provides guidance to agencies on measuring and reporting job creation
- ◀ Only jobs directly created or retained by ARRA funds should be included
 - ▶ *Estimated on a quarterly basis*
- ◀ Jobs created should **NOT** include jobs created at:
 - ▶ *Suppliers (indirect) – Such as equipment vendors or*
 - ▶ *Local community (induced jobs) – Indirectly stimulated employment*
- ◀ Job creation should be measured in FTEs
 - ▶ *A brief description of the jobs created and retained will be required*
- ◀ The agencies will be comparing job creation to a macroeconomic standard
 - ▶ *Every \$92,000 in government spending creates 1 FTE job-year*

What does the ARRA actually say?

- ▶ Sect. 1605 Use of American Iron, Steel and Manufactured Goods
 - (a) *None of the funds appropriated or otherwise made available by this Act may be used for a project for the construction, alteration, maintenance, or repair of a public building or public work unless all of the iron, steel, and manufactured goods used in the project are produced in the United States*
- ▶ Exceptions:
 - ▶ *Application inconsistent with the public interest*
 - ▶ *US manufactured goods not available in sufficient quantities or qualities*
 - ▶ *Meeting US content requirements will increase cost of project by 25%*
 - ▶ *Rules will not be applied in a manner inconsistent with US trade obligations*
- ▶ Waivers must be published with a detailed justification in the Federal Register

Developments in April and May

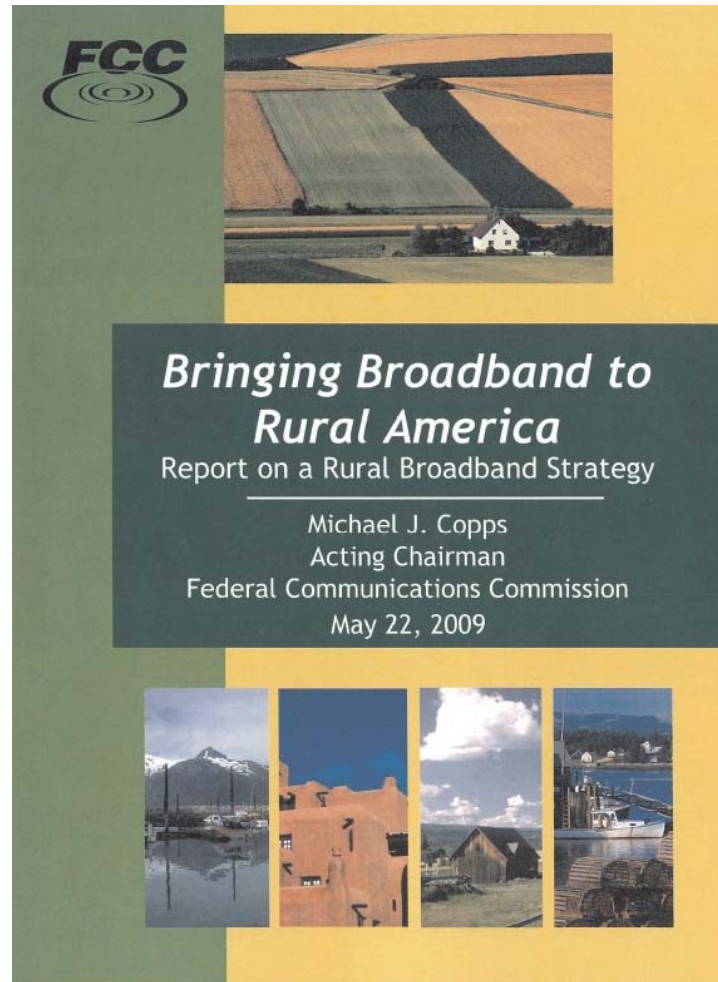
- ▶ Office of Management and Budget (OMB) issued detailed guidelines on their interpretation and relevant factors
- ▶ Ex Parte filings with the NTIA indicate extensive discussions with large stakeholders:
 - ▶ *Cisco, TIA, Alcatel-Lucent, Communication Workers of America (CWA)*

Implications

- ▶ A major disagreement between the CWA and vendors Cisco and Alcatel Lucent
- ▶ Cisco and Alcatel-Lucent are arguing for a blanket waiver
 - ▶ *Cisco points out that the OMB says that the legislation does not apply to private sector entities*
 - ▶ *Recommends that a waiver should be given to public entities so they are not discriminated against*
- ▶ CWA argues for use of RUS “Buy American”
 - ▶ *List of materials and equipment manufactured in the 51 countries with which the US has free trade agreements*

Calix is taking a proactive approach to these requirements

- ▶ Calix believes that current the “List of Materials Acceptable for Use on Systems of USDA Rural Development Telecommunications Borrowers” will be used as one of the key criteria under this provision
 - ▶ **ALL** Calix products are already on this list
 - ▶ Calix is making sure that **ALL NEW PRODUCTS** qualify for this list
- ▶ Calix utilizes a global contract manufacturer (Flextronics) as its supply chain partner
 - ▶ *Should a more stringent definition be used, Calix has a plan of action developed with Flextronics to ensure we meet the requirements*
- ▶ This approach will allow Calix customers to meet any “Buy American” requirements that may be required in Stimulus applications



Essentially no new information, but interesting tidbits

- ▶ There was no information on the key rules or definitions being developed by the NTIA and RUS
- ▶ The report is a historical account and a status update from a policy perspective, however:
 - ▶ *No 477 filing data available in time for the report*
 - ▶ *Lots of emphasis on better data collection going forward*
- ▶ The report was mandated in the 2008 Farm Bill
 - ▶ *Acting FCC Commissioner notes that when he took over the agency in January no work had been done on the report*
- ▶ The report notes that the intent of the 2008 Farm Bill was superceded by the inclusion of the National Broadband Policy in the ARRA
- ▶ The report notes that broadband policy is now a major focus of a federal interagency working group under the National Economic Council
 - ▶ *This interagency work is leading to excellent cooperation between Federal agencies on broadband initiatives*
- ▶ Need to include broadband in Universal Service Fund (USF) reform

- ▶ Data collected through two 477 filings per year
- ▶ Number of homes served, by bandwidth, by census tract
- ▶ “Unserved “areas identified by population, density and average per capita income
- ▶ Report to include consumer survey and International comparisons

	Downstream	Upstream
Less than 200 Kbps	n/a	Rate Code 1
200 Kbps to 768 Kbps	Rate Code 2	Rate Code 2
768 Kbps to 1.5 Mbps	Rate Code 3	Rate Code 3
1.5 Mbps to 3 Mbps	Rate Code 3	Rate Code 4
3 Mbps to 6 Mbps	Rate Code 5	Rate Code 5
6 Mbps to 10 Mbps	Rate Code 6	Rate Code 6
10 Mbps to 25 Mbps	Rate Code 7	Rate Code 7
25 Mbps to 100 Mbps	Rate Code 8	Rate Code 8
100 Mbps+	Rate Code 9	Rate Code 9

One-on-one interviews to understand CE involvement

- ▶ Identify primary contact people on stimulus projects
- ▶ Understand what services the CE is offering to stimulus applicants
- ▶ Determine what resources may be needed to help clients
- ▶ Understand how Calix should work with the CE and clients

CE partners at Calix

▶ **Donovan Prostrollo**

Petaluma, CA office

West of the Mississippi

707-766-3042

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▶ **David Russell**

Minneapolis, MN office

East of the Mississippi

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Account team partners at Calix

▶ **West Account Team Leaders**

Skip Hirvela-VP

Keith Carlson

Cory Polman

Joe Bowers

Bill Orr

Lonny Maler

▶ **East Account Team Leaders**

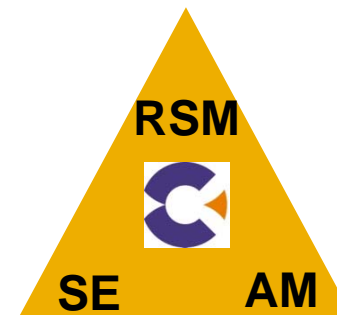
Ken Grelck-VP

Ab Quinlivan

Mike Carpinelli

Dennis Hensley

Jim Latham

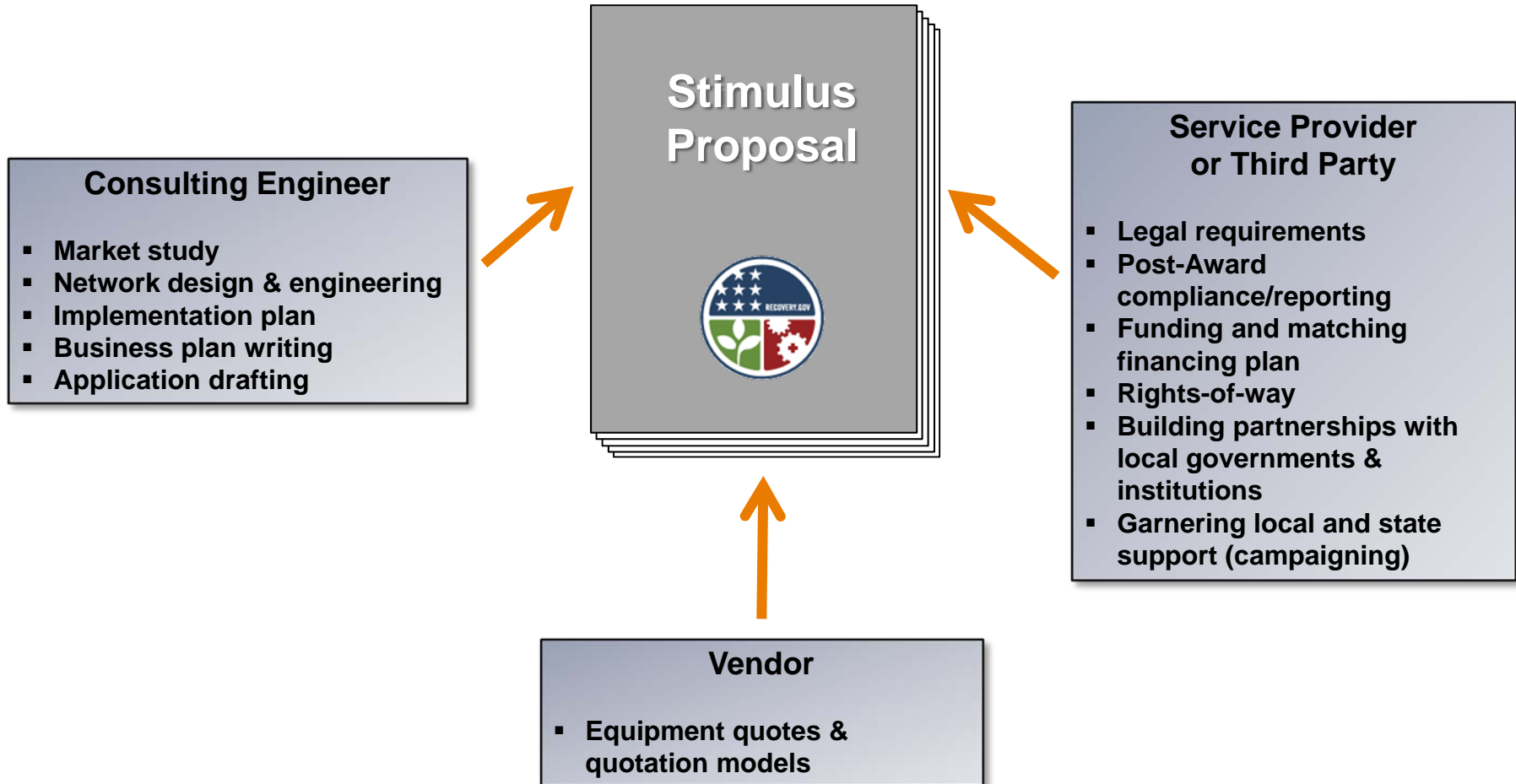


One-on-one interviews to understand CE involvement

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- ◀ Understand how Calix should work with the CE and clients

Referral of clients to CEs

- ◀ Calix will refer service providers seeking professional assistance to CEs
- ◀ Matching service provider needs to CEs BBS services



One-on-one interviews to understand CE involvement

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Referral of clients to CEs

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Calix services designed to complement CEs

- ◀ Calix building database of CEs and other resources available to applicants
- ◀ Database will include market research firms, law firms, demographic data providers, etc.
- ◀ Calix equipment design, quotes and quotation models

World's leading provider of demographic data

- ▶ Subsidiary company of Nielsen
- ▶ Demographic statistics and target market data
- ▶ Ability to identify target customers through segmentation

Data by census tract and telephone wire centers

- ▶ Demographic data can be aligned with new FCC 477 broadband filings
- ▶ Useful for characterizing “unserved” and underserved Bell areas for CLEC opportunities

Data can be purchased by area and number of variables

- ▶ Flexible pricing models
- ▶ Data available by wire centers, ILEC boundaries and cable system boundaries
- ▶ Ability to provide data in maps of various boundaries



Strategic advice: Process navigation and successful submission

- ▶ Project and application viability and assessment
- ▶ Overall project assessment
- ▶ Identify and assess opportunities, requirements, rights

Application writing and process management

- ▶ Develop/implement campaign to support application
- ▶ Business plan writing and application drafting
- ▶ Due diligence on essential requirements

Legal issues: Monitor and ensure post-award compliance

- ▶ Assist with post-award reporting requirements
- ▶ Obtain necessary government licenses
- ▶ Negotiate and draft agreements
- ▶ Compliance with laws

KELLEY

DRYE

Calix will meet Stimulus supply chain requirements

- ▶ Calix utilizes the world's 2nd largest contract manufacturer as a close and integrated strategic partner
- ▶ Manufacturing and assembly resources optimally leveraged globally
 - ▶ *United States*
 - ▶ *Mexico*
 - ▶ *China*
- ▶ 2-year lead time trend consistently < 3 weeks
 - ▶ *Delivery lead times may vary by product*
- ▶ Calix is actively engaged with its supply chain partners anticipating & planning for demand spike
 - ▶ *Earliest possible demand notification key to predictable & shorter lead times*



Large scale manufacturing

Not utilizing source documents and available resources

- ▶ NTIA, RUS and FCC websites
- ▶ State associations, consulting engineers and vendors
- ▶ Don't rely on blogs and news reports.....educate yourself

Unrealistic expectations of award sizes

- ▶ Some people expect to win projects of massive size
- ▶ Others are proposing projects so small they are not likely to get attention

Not thinking about how project will be prioritized

- ▶ Many are proposing projects unlikely to be considered priorities
- ▶ Bandwidths being proposed won't be competitive against wireless
- ▶ More focus needed on "unserved" areas

Not thinking strategically about the future

- ▶ What technologies best position you in the future (maintenance, upside)

Where do you need your network to be in five years?

- ▶ Technologies – Maintenance – Service and revenue opportunities

What can you leverage in your Stimulus proposal?

- ▶ Other areas passed by Stimulus fiber
- ▶ Backhaul “middle mile” improvements
- ▶ Local businesses and institutions

What other Stimulus projects can I cross-coordinate with?

- ▶ Highways, health, education

Who may compete against you for the same geography?

- ▶ How can you crush wireless and HSD competition?

Poll question:

What technology or technologies
are you planning to propose in
your Stimulus application?

(You can select more than one.)

Poll question:

How many premises
(Business/Residential) do you
anticipate your proposed
project(s) will pass?

Poll question:

If you had a ballpark estimate of the size of your potential project, what would it be?

(You can select more than one.)

Poll question:

What percent of your
COMPANY-WIDE CAPEX over
the next 2 years will consist of
Stimulus award funds?
(Exclude your 20% matching)

Poll question:

What percent of your
ACCESS CAPEX over the next 2
years will consist of Stimulus
award funds?
(Exclude your 20% matching)



Broadband Stimulus Update | Q & A

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