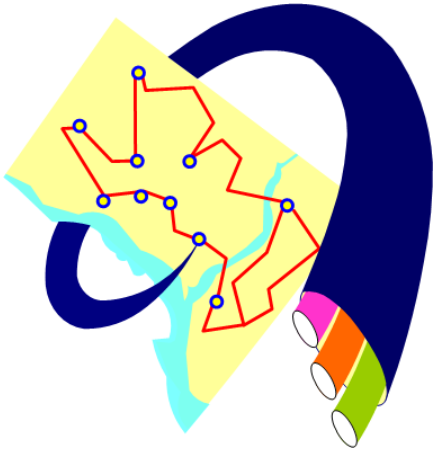
District of Columbia Community Access Network



Last Mile Provider and Carrier Symposium

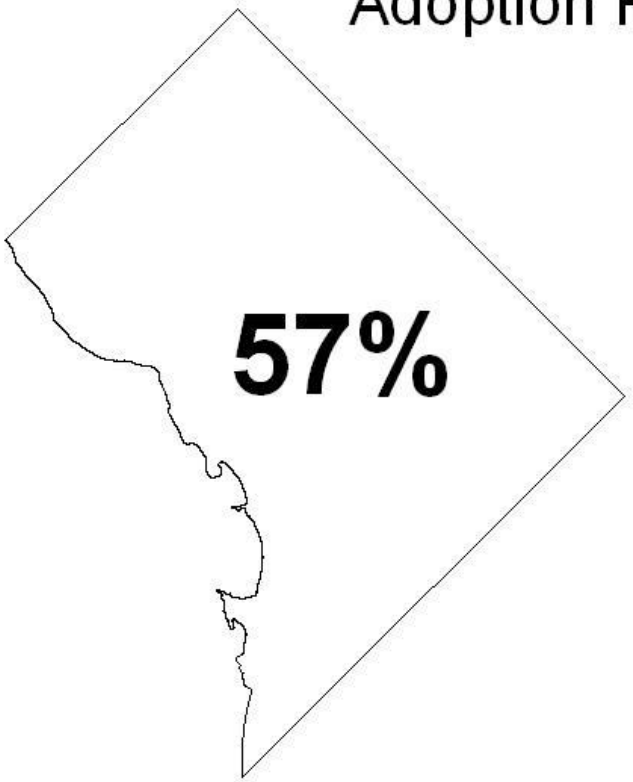
December 9, 2010

DC-CAN Project Overview

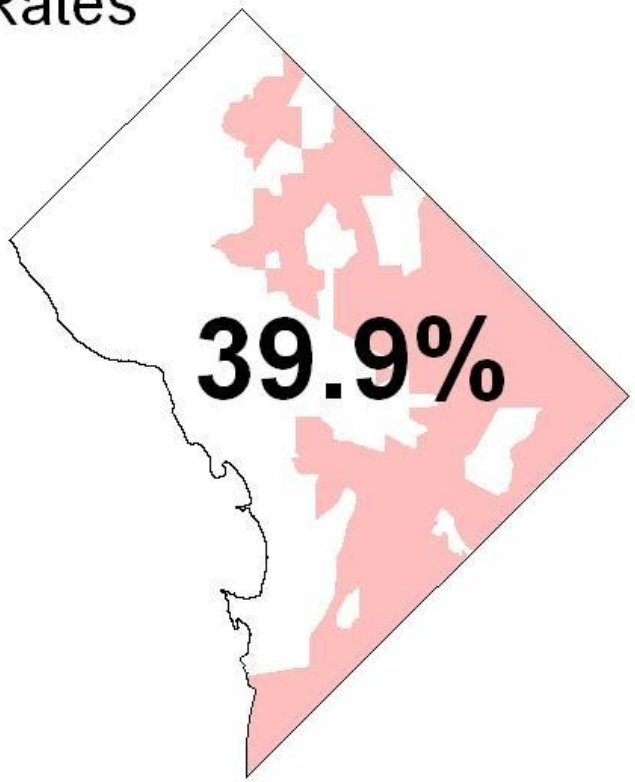
- Focused initially on Wards 5, 7 and 8, underserved areas of the city
- Spurs broadband adoption and economic development in underserved areas
- Brings affordable broadband to over 250 community anchors
- Creates high speed middle-mile open-access network for last mile service providers
- 3 year initiative to be complete by June 2013

Underserved Areas

Adoption Rates *



Entire District



Underserved Service Area

* Based on carrier provided data from PSC

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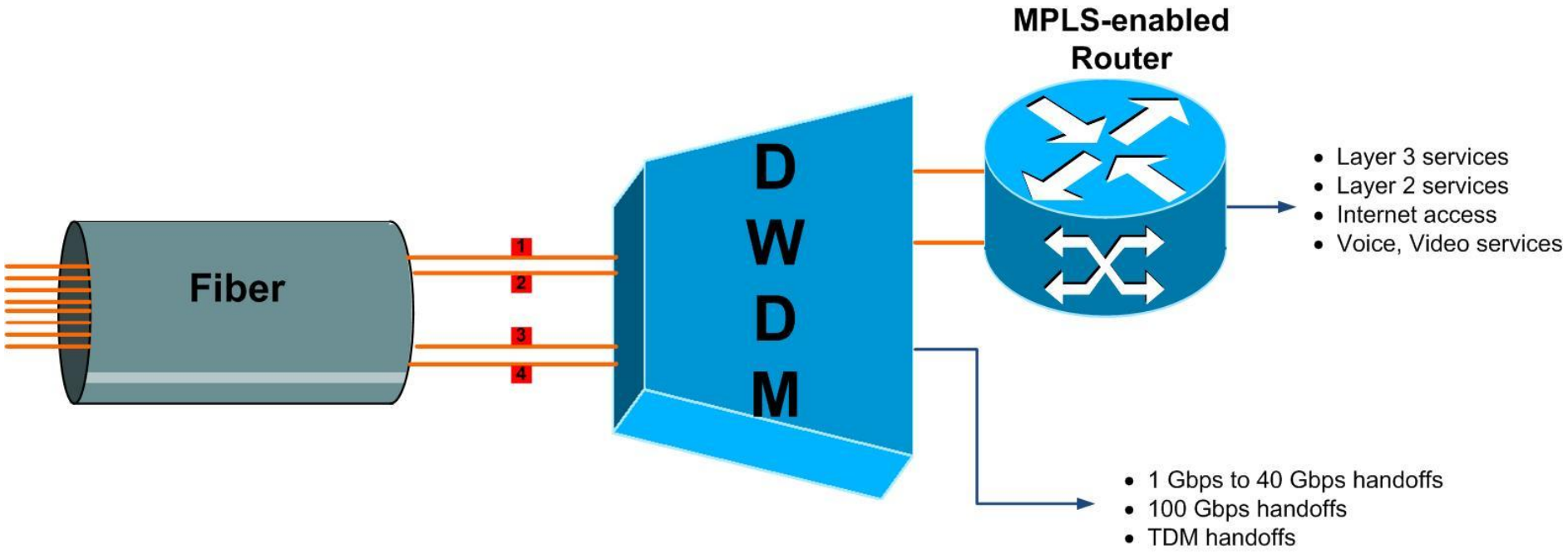
Citywide Network

DC-CAN
District of Columbia Government
Community Access Network

DC-CAN…

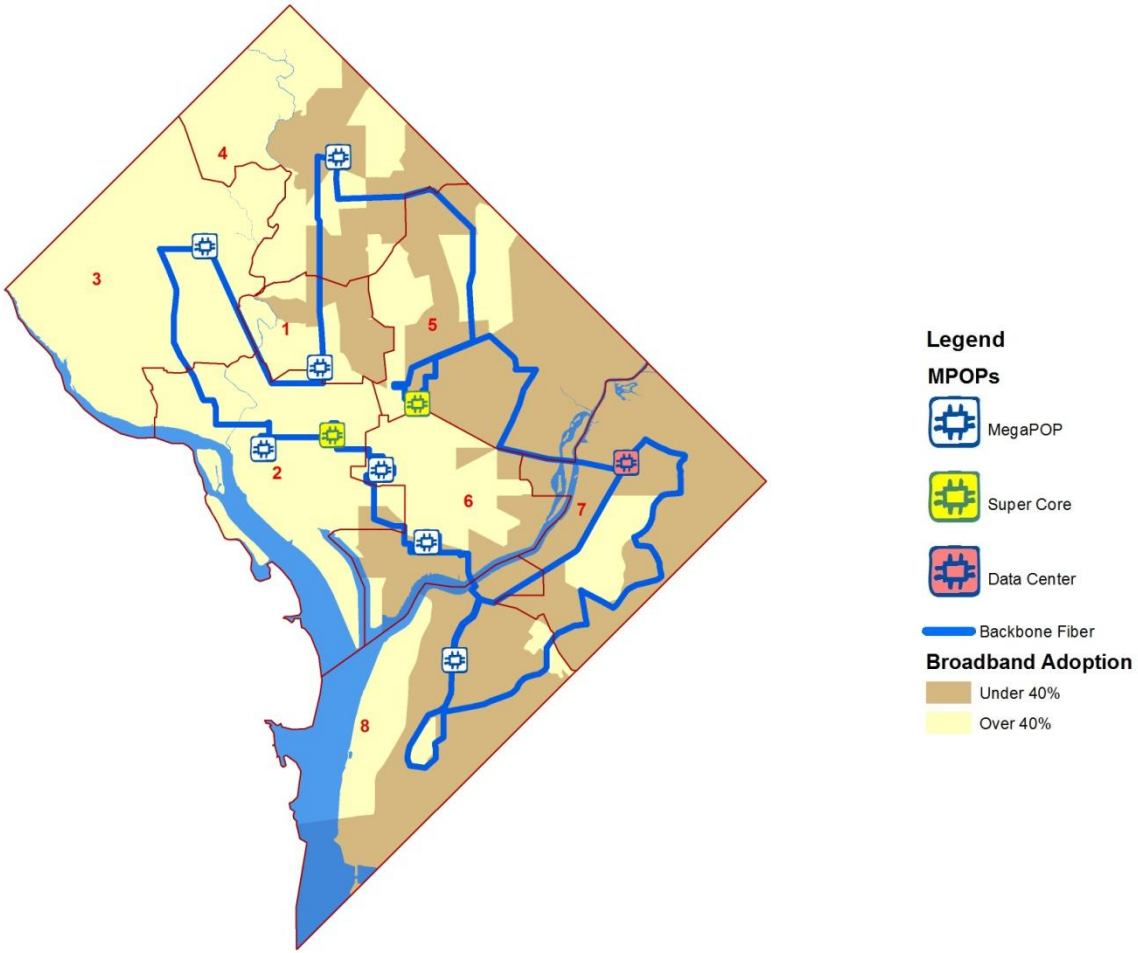
- Primarily provides wholesale middle-mile broadband services over fiber optic infrastructure
- Is open to any qualified service provider in the District
- Does not fund last mile build out or other startup costs

High Speed, Open Access Network



Supports 40/80 channels, up to 100 Gbps capability

DC-CAN MegaPOPs



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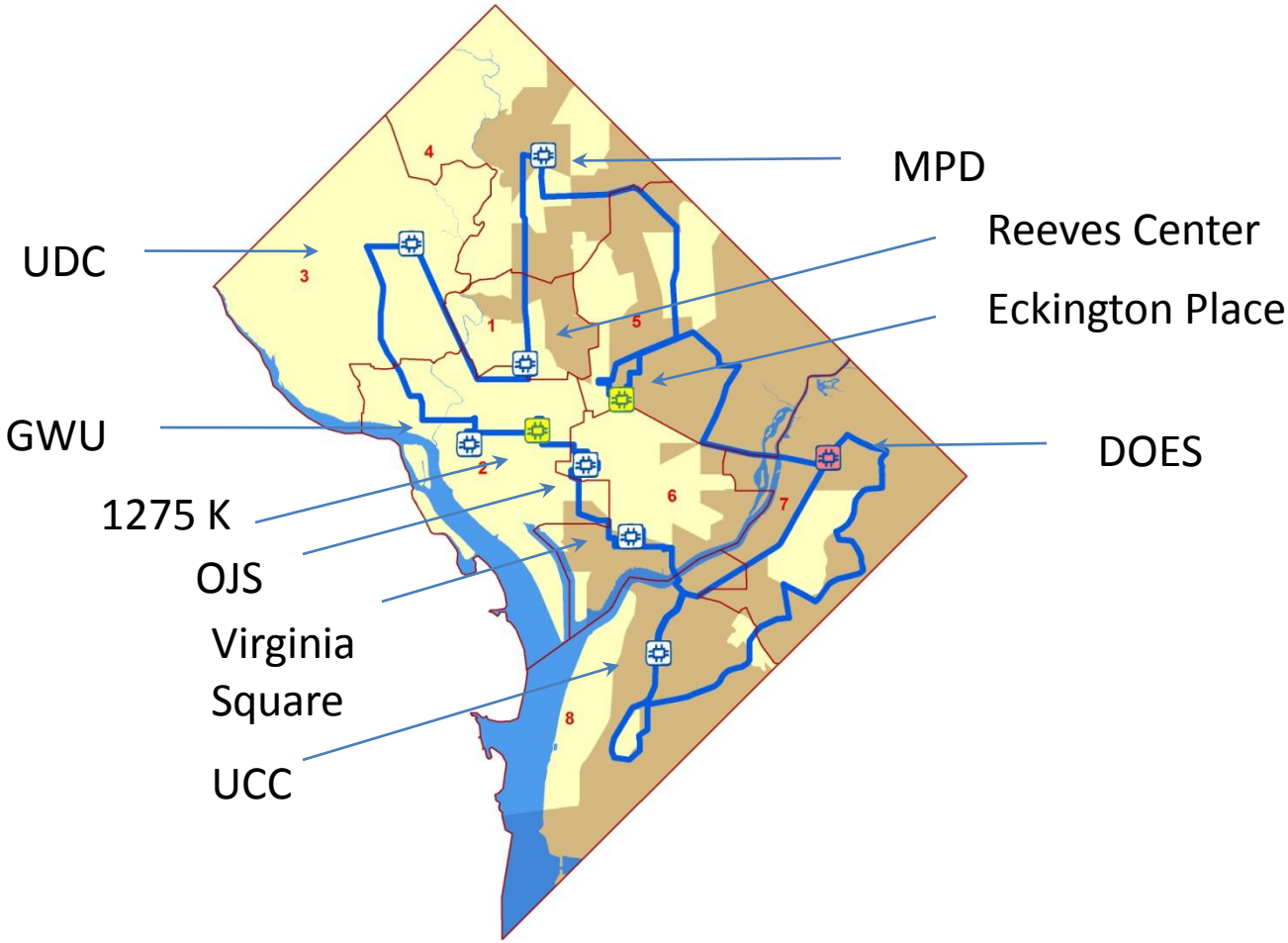
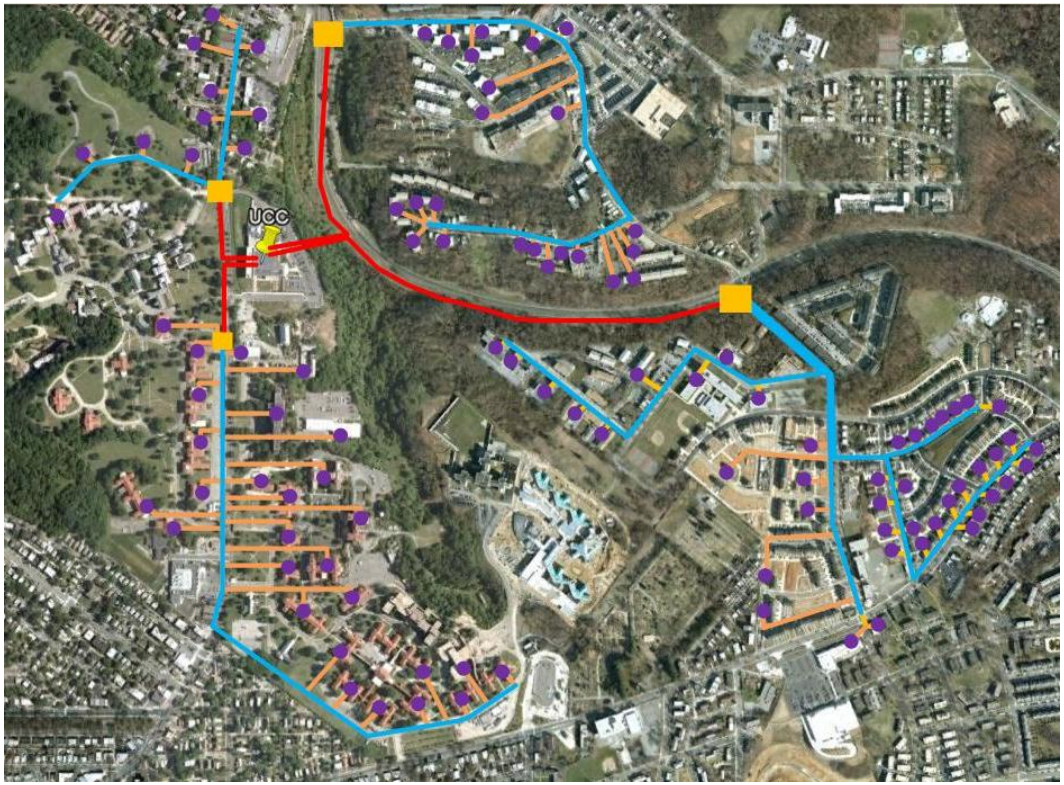
DC-CAN MegaPOPs

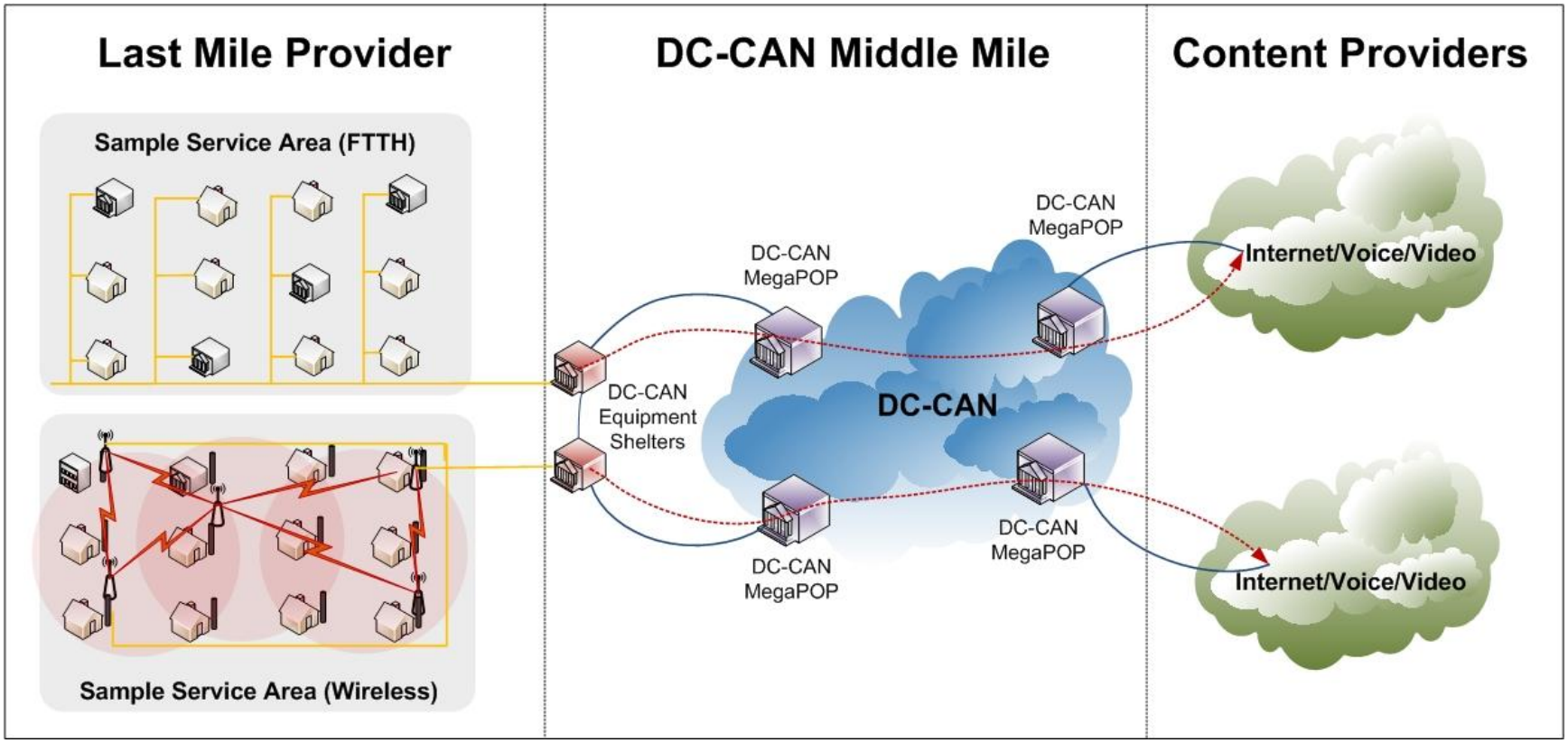


Last Mile Service Options

- FTTH (xPON)
- FTTH (Active Ethernet)
- Unlicensed Wireless
- Licensed Wireless
- Twisted Pair
- Mobile Data
- Broadband over Power Line



Last Mile Service Scenario



Last Mile Service Areas - Criteria

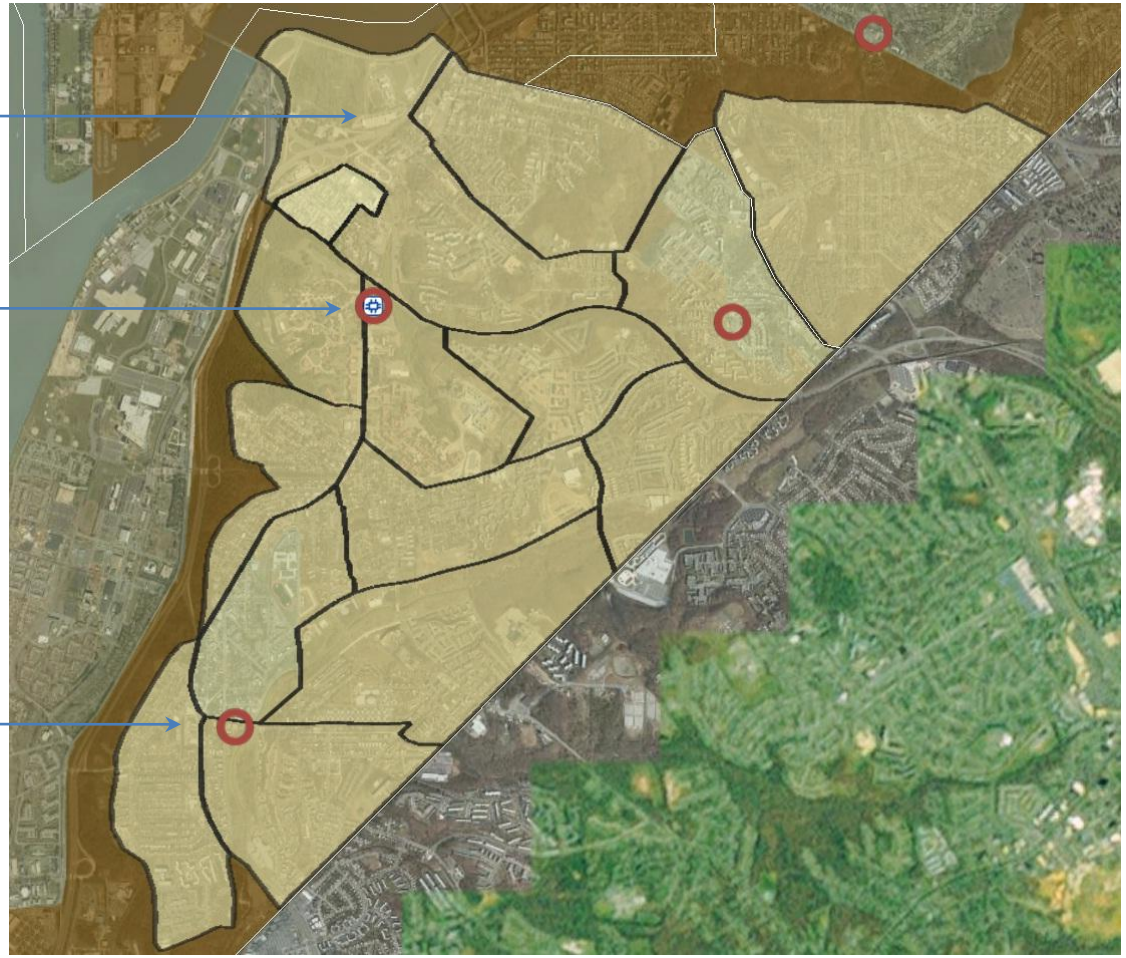
- OSP
  - Utilizes existing cable/infrastructure routes
  - Easy access from existing manholes
  - Accommodates fiber handoffs at negotiated locations
- Last Mile Technologies
  - Typical number of subscribers served by commercially available last mile solutions
  - Access node placement located on District Government property for security
  - One access node per 4-5 service areas
- Demographics and Geography
  - 2500 to 3000 living units per service area
  - Follows natural geographic and infrastructure boundaries

Last Mile Service Areas – Ward 8

Service Areas

MegaPOP

Access Nodes



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Last Mile Service Areas - Profile

Area 99 - Acme East

Pop (2000 census)	1054
Housing Units (2010)	42
Area	0.28 Mi^2

Household Incomes

Annual Household Income (2000 census)			
<20K	20-30K	30-50K	Over 50K
68%	13%	11%	8%

Housing Unit Types

Housing Unit Types (2010 DCGIS)				
	Single Dwelling Units: 42		Multi Dwelling Units: 2	
MDU 2-8 Units	MDU 9-24 Units	MDU 25-48 Units	MDU 49-96 Units	MDU 97+ Units
1	0	1	0	0

Commercial Summary

Total Number of Businesses: **19**
Total Number of CAI Sites: **2**
Non Profits: 3
High Tech: 1

Employee Counts				
1-4	5-9	10-24	25-99	100+
10	2	3	1	2

PC Counts by Company		
0-1	2-9	10+
3	8	1

Fiber to the Home Scenarios

Active Ethernet Solutions			
		Allied	
	Cisco	Telesis	Huawei
Devices	2	3	1
Backbone Fibers	2	2	2
User Fibers	84	84	84
SDU ONTs	42	42	42
MDU ONTs	5	5	5

DC-NET District of Columbia Government Citywide Network

DC-CAN District of Columbia Government Community Access Network

Middle Mile Services

- **Layer 1 Wavelength** – 1 Gbps to 40 Gbps DWDM Wavelength services, with Gigabit Ethernet, 10 Gig Ethernet, OC-X, and individual case basis handoffs.
- **Layer 2 Ethernet over MPLS** – Point-to-Point or Point-to-Multipoint Ethernet over Multi-Protocol Layer Switching (MPLS) from 10 Mbps to 10 Gbps
- **Layer 3 MPLS-based Managed VPNs** – Managed, secure communications at access speeds ranging from 10 Mbps to 10 Gbps
- **Backend Services** – Hosting and colocation to include cabinet space, power, cross-connect, and Internet access, circuit trunking at DC-CAN MegaPOP sites throughout the District and at CoreSite, Reston
- **Professional Services** – Design, engineering, and project management services available for a reasonable fee to interested providers
- **Construction and Engineering**– Fiber construction, cabling, and wireline and wireless equipment installation

Middle Mile Support

- **Network Monitoring and Management –** Three state-of-the-art Network Operations Centers (NOC) provide 24-by-7 network monitoring
- **Fiber Maintenance and Restoration –** Dedicated fiber maintenance and restoration team with 24-by-7 response
- **Customer Support –** Dedicated Helpdesk team to support customers from 7 am to 7 pm
- **Billing Systems –** Online billing systems provide access to invoices and complete service feature records
- **Service Level Agreements –** SLAs with customer specific response and restoration times

Service Availability

- Available now:
  - Layer 3 services
  - Professional services
- Available as core segments are completed: Layer 1 and 2 services
- April 2011: Middle-mile service pricing available
- Fall 2011 to Summer 2013: Core segment buildout

Core Buildout Timeline

Ring Segment	Wards	Projected Complete Date
Southeast 1 (UCC to DOES)	7 and 8	September 2011
Northeast 1 (DOES to Eckington Place)	7 and 5	December 2011
Northeast 2 (Eckington Place to MPD)	5 and 4	June 2012
Columbia Heights (MPD to Reeves)	4 and 1	June 2012
Northwest 1 (Reeves to UDC)	1 and 3	September 2012
Northwest 2 (UDC to GWU)	3 and 2	September 2012
Downtown 1 (GWU to 1275 K St)	2	December 2012
Downtown 2 (1275 K St to OJS)	2 and 6	December 2012
Capitol Hill/Southwest (OJS to Virginia Ave)	6	March 2013
Southeast 2 (Virginia Ave to UCC)	6 and 8	June 2013

RFI Timeline

- December 17, 2010 – Last date for questions on RFI
- December 20, 2010 – Submit Letter of Intent to respond to RFI
- January 10, 2011 – RFI responses due

- Spring - Summer 2011 – Establish relationships with interested providers

Contact Information

- **Web: www.dcnet.dc.gov**
  - **DC-CAN Page**
  - **DC-CAN RFI**
- **Email:** dccan@dc.gov
- **Sales Support:** dcnetbu@dc.gov