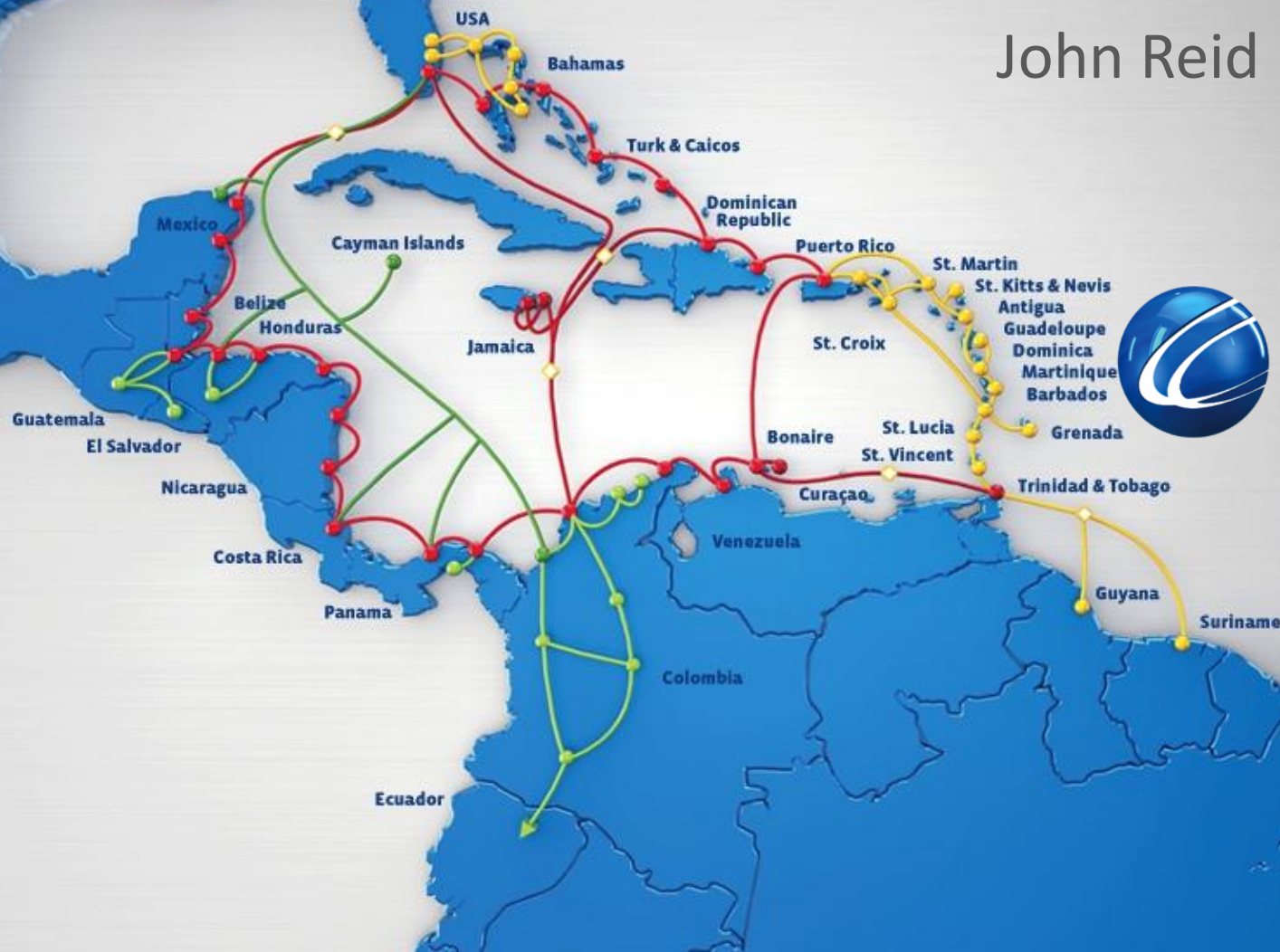


Delivering Broadband in the Region

John Reid



columbus
communications



WHO WE ARE AND WHAT WE DO

Most Robust Operating Platform in the Region



Wholesale Capacity



Broadband Capacity



Conquering the Digital Divide



Investment to date US\$1B

- World Class Infrastructure
- 20,000 km of terrestrial and fiber optic network
- First World Services...most robust network serving the Caribbean and Latin America; connecting 22 countries/territories
- Substantial capacity for future growth; current utilization is less than 9% of current maximum design capacity

Effective Competition

- Lower Telecommunications Costs
- Enabling Affordable Access
- Columbus Networks is Carrier Neutral

Increased Employment

- 1,500 skilled positions created
- Hundreds of additional "Contractors" employed

Cable Network / System Overview

The most advanced and robust broadband systems in the Caribbean;
870 MHz fully digital, two-way, largely passive cable systems



Jamaica



Trinidad



Grenada



Curacao

| | | | | |
|--------------------------------|----------|----------|--------|----------------------------|
| Digital Headend | 1 | 1 | 1 | 1 |
| Regional Hub Sites | 9 | 3 | -- | -- |
| HFC cable | 4,500 km | 6,400 km | 500 km | 500 km |
| Ring topology for core network | Yes | Yes | Yes | Yes |
| Homes passed per node | 100 | 100 | 260 | 90 |
| Households | 725,000 | 330,000 | 35,000 | 55,000/ 5,000 (commercial) |
| Employees | 533 | 565 | 100 | 82 |
| Homes passed | 276,707 | 268,390 | 24,452 | 12, 384 |

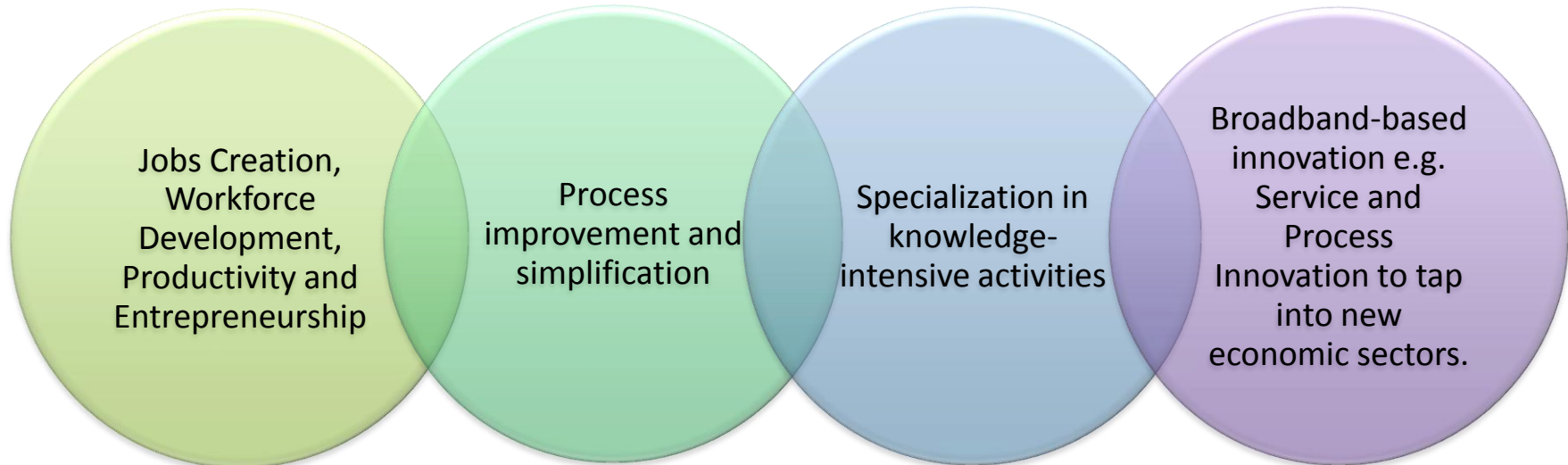




WHY IS BROADBAND SO CRITICAL

How does Broadband contribute to economic growth?

Broadband revenue streams are growing exponentially.
Broadband infrastructure promotes:



How does Broadband contribute to economic growth?

Many studies suggest positive returns can be expected from investment in Broadband infrastructure

An analysis for the European Commission estimates that Broadband can create more than two million jobs in Europe by 2015, and an increase in GDP of at least EUR \$636 billion.

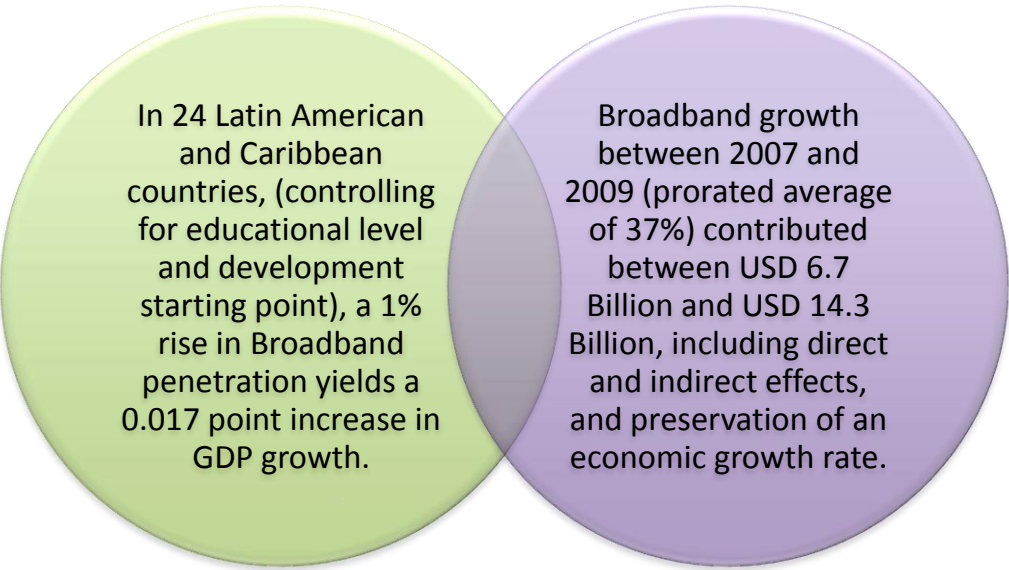
A study in Brazil reported that Broadband contributed up to 1.4% of the employment growth rate.

In China, every 10% increase in Broadband penetration is seen as contributing an additional 2.5% to GDP growth.

In Thailand only 3% of households and 12% of individuals have Broadband service (2010). Has been forecast that Broadband could add nearly 1% to the country's GDP growth rate.

How does Broadband contribute to economic growth?

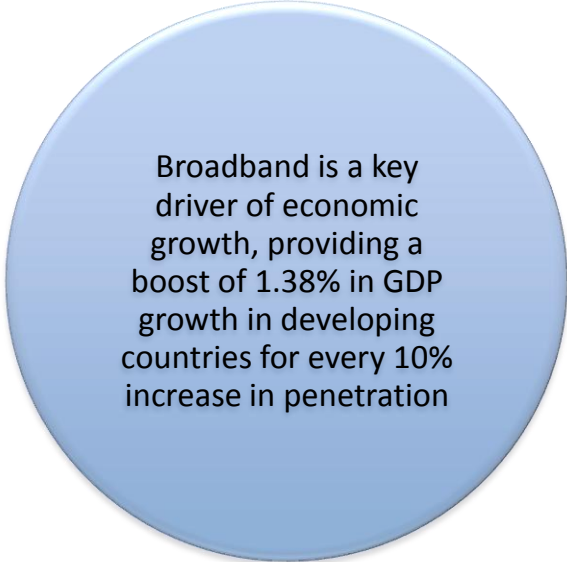
Telecom Advisory Services



In 24 Latin American and Caribbean countries, (controlling for educational level and development starting point), a 1% rise in Broadband penetration yields a 0.017 point increase in GDP growth.

Broadband growth between 2007 and 2009 (prorated average of 37%) contributed between USD 6.7 Billion and USD 14.3 Billion, including direct and indirect effects, and preservation of an economic growth rate.

The World Bank/InfoDev



Broadband is a key driver of economic growth, providing a boost of 1.38% in GDP growth in developing countries for every 10% increase in penetration

Food, Water, Shelter...or Internet?

1 in 3

COLLEGE STUDENTS AND
YOUNG PROFESSIONALS



- ✓ Air
- ✓ Water
- ✓ Food
- ✓ Shelter
- ✓ Internet

CONSIDER INTERNET A FUNDAMENTAL
HUMAN RESOURCE

55%

OF COLLEGE
STUDENTS

AND

62%

OF YOUNG
EMPLOYEES

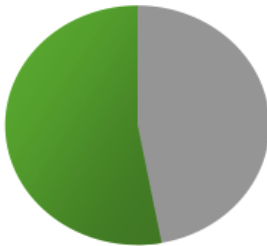
SAY THEY COULD NOT LIVE WITHOUT
THE INTERNET

Internet's Importance in Daily Life



4 out of 5

COLLEGE STUDENTS AND YOUNG EMPLOYEES
BELIEVE THE INTERNET IS VITALLY IMPORTANT
AND PART OF THEIR DAILY LIFE'S SUSTENANCE.



MORE THAN
HALF

CONSIDER THE INTERNET AN
"INTEGRAL PART OF THEIR LIVES"

The New Way to Get Around

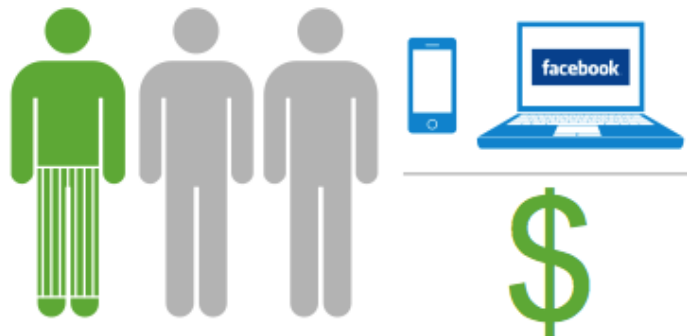
2 out of 3

COLLEGE STUDENTS GLOBALLY WOULD
CHOOSE AN INTERNET CONNECTION
OVER A CAR



vs.





1 in 3

WOULD PRIORITIZE SOCIAL MEDIA
FREEDOM, DEVICE FLEXIBILITY,
AND WORK MOBILITY OVER SALARY
IN ACCEPTING JOB OFFERS

2 of 5 (40%)
COLLEGE
STUDENTS

AND

2 of 5 (45%)
YOUNG
EMPLOYEES

WOULD ACCEPT A LOWER-PAYING JOB WITH
MORE FLEXIBILITY WITH DEVICE CHOICE,
SOCIAL MEDIA, AND MOBILITY THAN A
HIGHER-PAYING JOB WITH LESS FLEXIBILITY

The Job Search: What the Next Workers Want

Remote Access, Flexible Work Hours and Job Choice

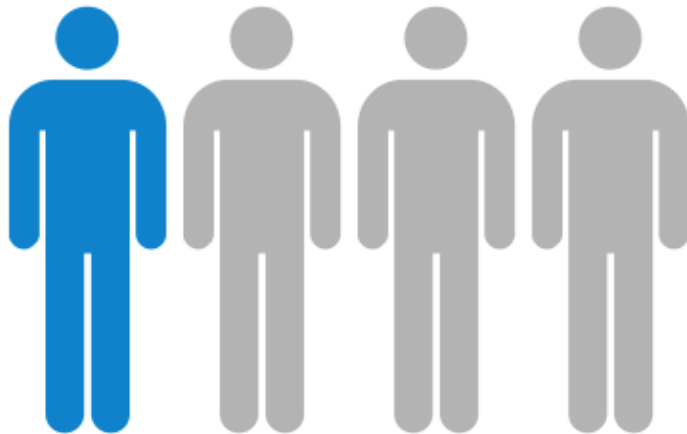


EMPLOYEES ARE EXPECTING GREATER WORK FLEXIBILITY

AT
LEAST

1 in 4
EMPLOYEES

SAID THE ABSENCE OF REMOTE
ACCESS WOULD INFLUENCE
THEIR JOB DECISIONS



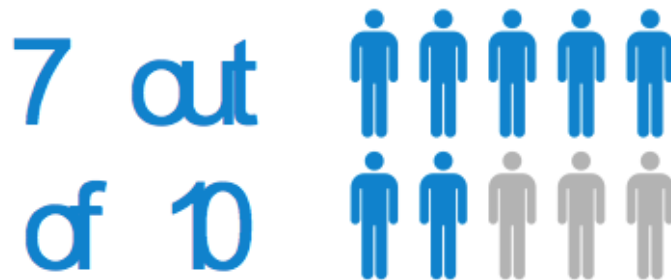
- ✓ Leaving the company sooner than later
- ✓ Slacking off
- ✓ Lowering morale
- ✓ Declining job offers outright

Connectivity Anywhere on Anything. Attitudes Towards Workplace Flexibility and Remote Network Access



3 of 10 (29%)
COLLEGE STUDENTS

FEEL THAT ONCE THEY BEGIN WORKING, IT WILL BE THEIR RIGHT—MORE THAN A PRIVILEGE—TO BE ABLE TO WORK REMOTELY WITH A FLEXIBLE SCHEDULE



COLLEGE STUDENTS

BELIEVE IT IS UNNECESSARY TO BE IN THE OFFICE REGULARLY



COLLEGE STUDENTS

FEEL THEIR PRODUCTIVITY WOULD INCREASE IF THEY WERE ALLOWED TO WORK FROM HOME OR REMOTELY

Small businesses head for economic recovery through the Internet

By Jo Wilkes on 28th April, 2010 - No Comments

Brussels, 28 Janu

The Commission proposes € 5 billion new investment in energy and Internet broadband infrastructure in 2009-2010, in support of the EU recovery plan

Broadband: key to European recovery

It has been a year of rationalising operations and dealing with tremendous uncertainty. But as we look to 2010, businesses can see signs of recovery and want to capitalise on the upturn. Fernando Gil de Bernabé. Cisco reports

December 8, 2008 11:17am EST

Obama: Broadband Essential Economic Recovery



By Chloe
Albanesius

THE HILL'S
Congress Blog
Where lawmakers come to blog

Broadband: A must for America's economic recovery

By Henry M. Rivera - 12/13/10 02:12 PM ET



RESULTS

Jamaica

| Year | Speed | Price |
|------|--------|-------|
| 2006 | 1.0 Mb | \$39 |
| 2011 | 20 Mb | \$39 |

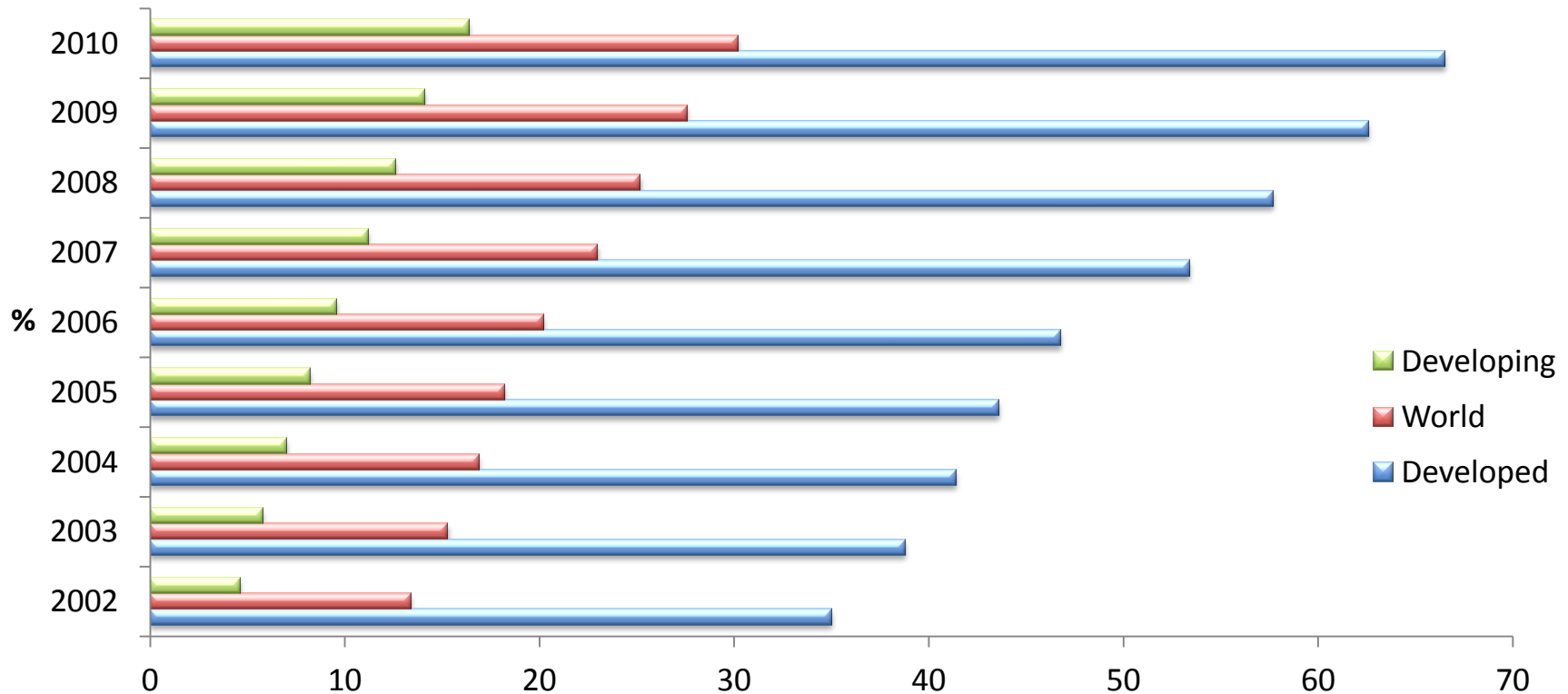
Trinidad

| Year | Speed | Price |
|------|--------|-------|
| 2006 | 1.0 Mb | \$104 |
| 2011 | 50 Mb | \$82 |

DS-3 MIA

| Year | Speed | Price |
|------|-------|--------|
| 2006 | | \$160K |
| 2011 | | \$35K |

Proportion of households with Internet access by level of development, 2002-2010



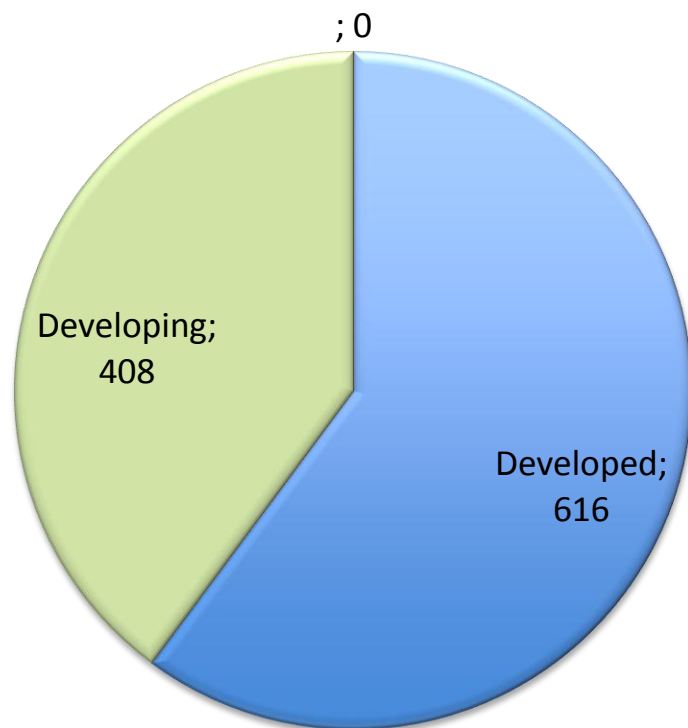
The developed/developing country classifications are based on the UN M49, see:

<http://www.itu.int/ITU-D/ict/definitions/regions/index.html>

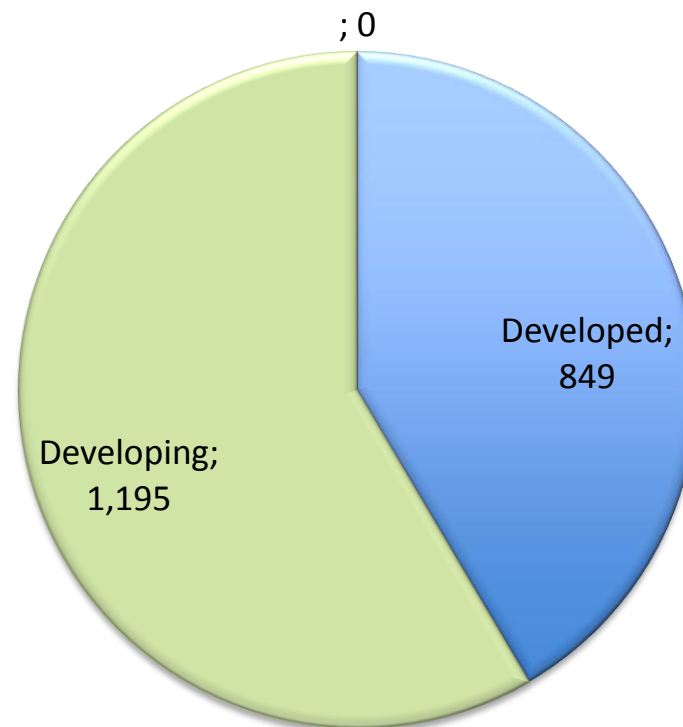
Source: ITU World Telecommunication /ICT Indicators database

Internet Users (millions), by Level of Development

2005

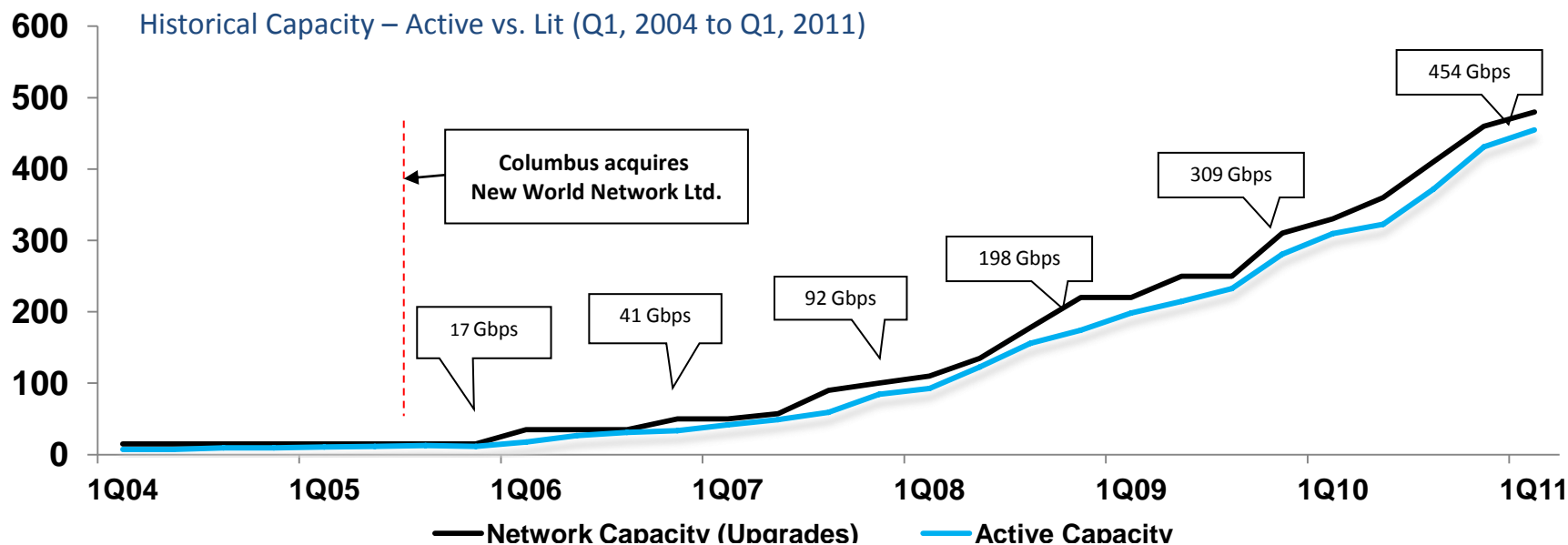
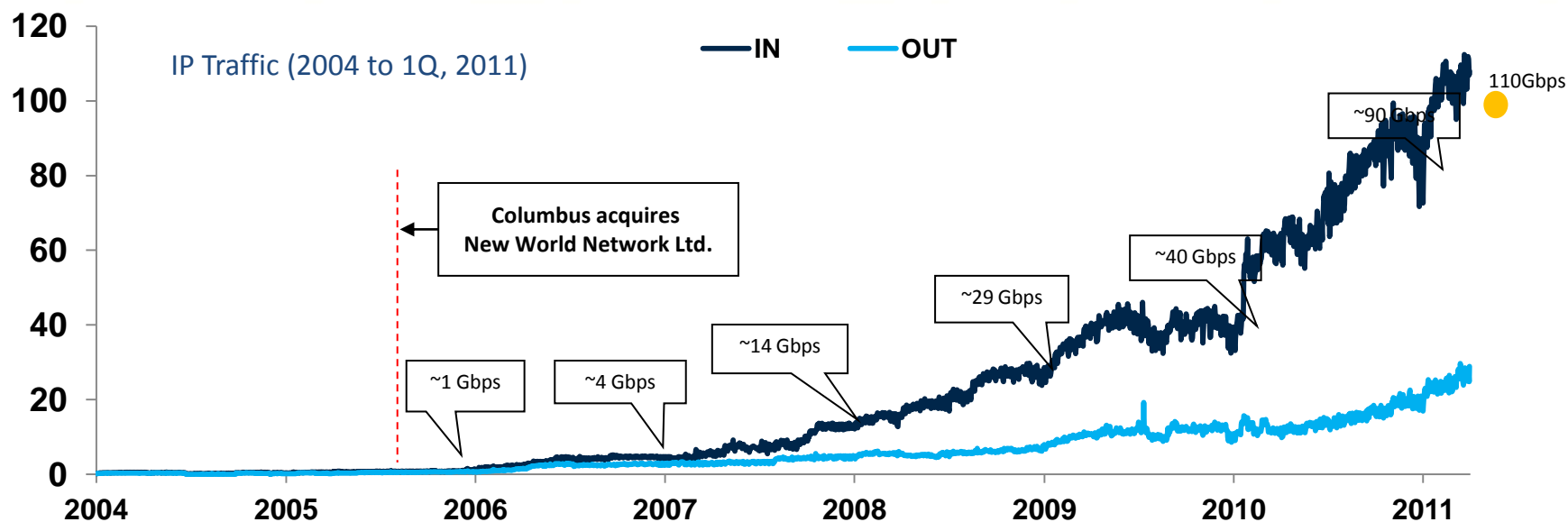


2010



The developed/developing country classifications are based on the UN M49, see:
<http://www.itu.int/ITU-D/ict/definitions/regions/index.html>
Source: ITU World Telecommunication /ICT Indicators database

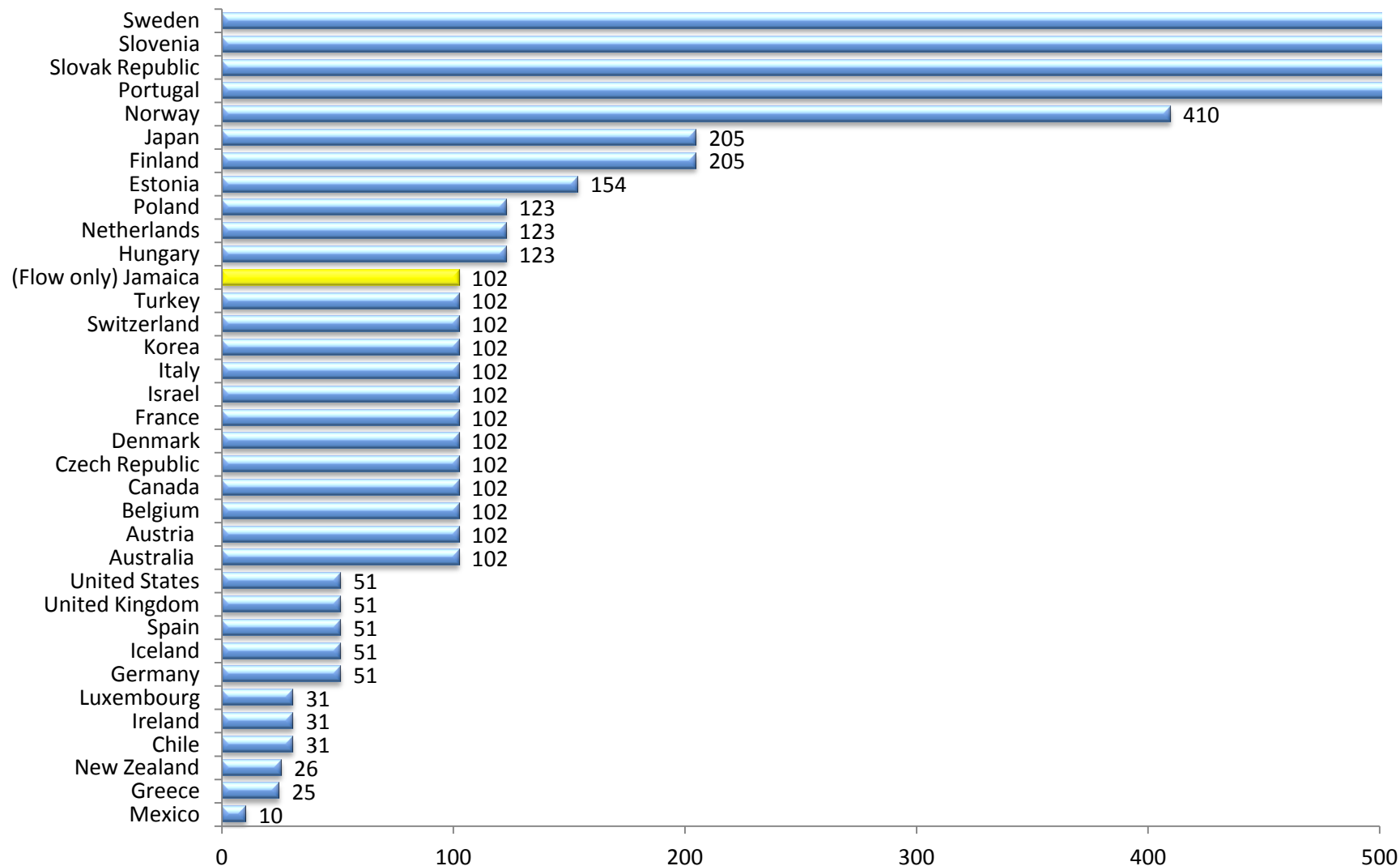
Accelerating Bandwidth Demand



Fastest Advertised Broadband Speed Available (Global)

Fastest advertised broadband speed, all technologies, Mbit/s, September 2010

SE, SI, SK and PT to 1,024 Mbit/s (1 Gbit/s)

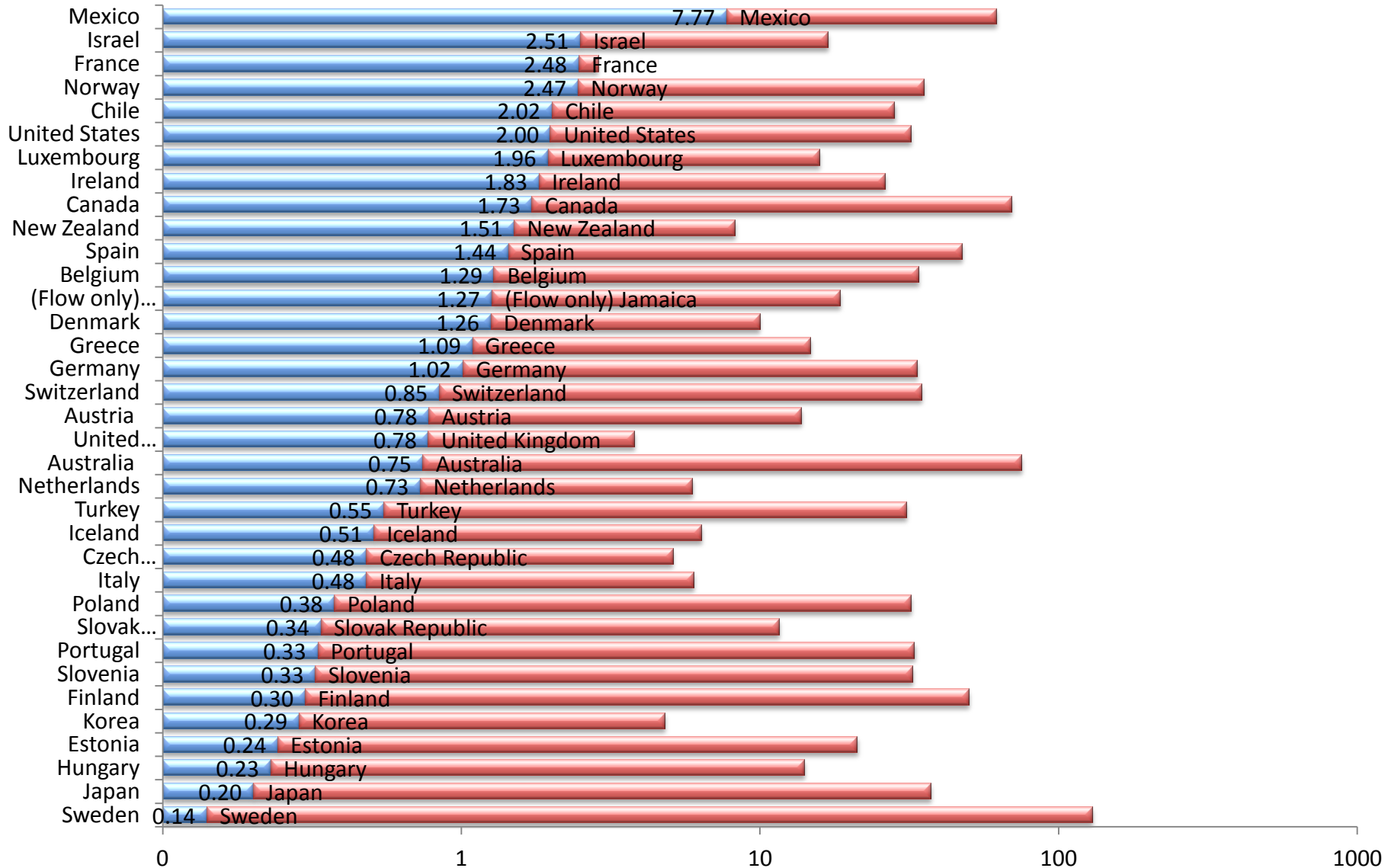


Source: OECD Online Study2009/Flow own Research

Price Ranges, Monthly Subs

(without line charge- Sept. 2010)

Broadband prices per megabits per second of advertised speed, Sept. 2010 - USD





PARTNERSHIPS

Universal Access Fund (UAF) - Jamaica

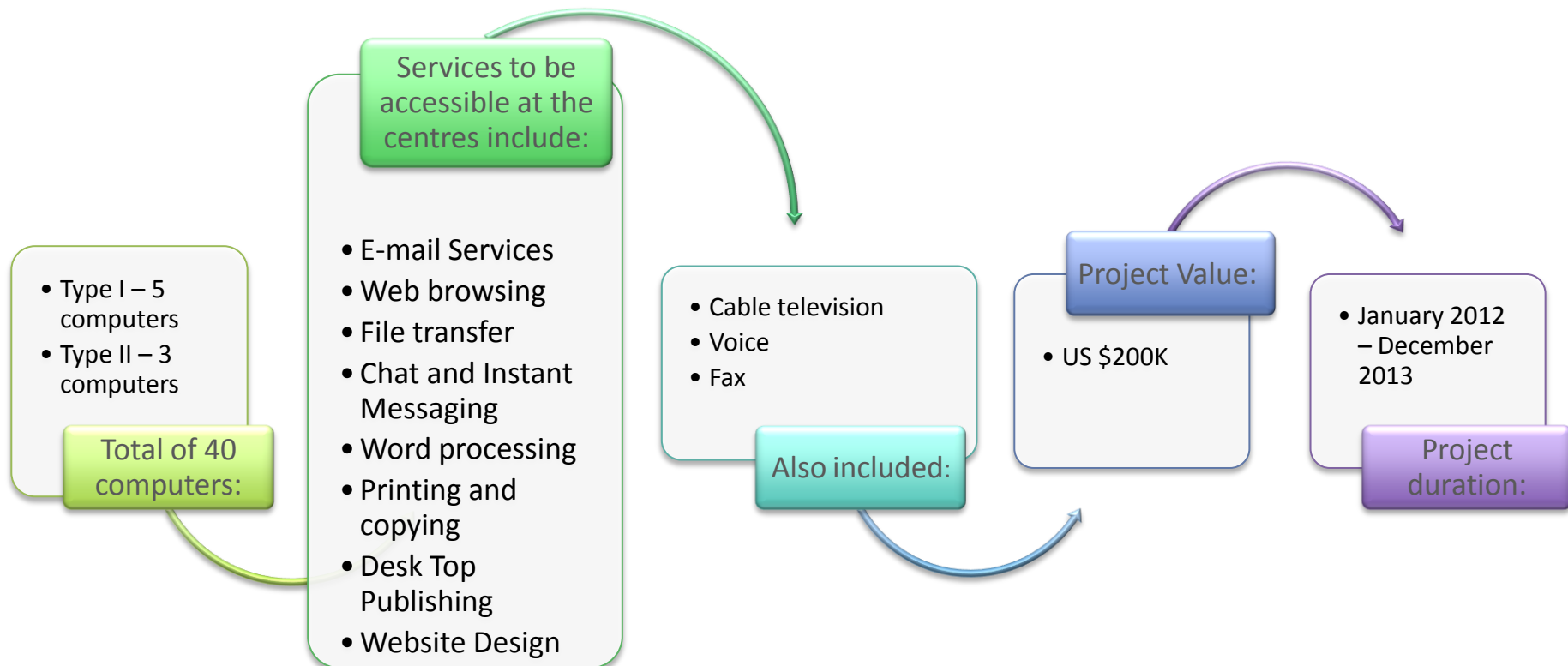


- Five- year contract signed with UAF for 108 schools, libraries & Post offices across the entire northern area of Jamaica, covering almost 60% of the country
- 100Mb VLAN Fiber Connection to each site with 200Mb of shared Internet access
- Fully managed WAN including management of router/firewall
 - Contract value US\$2.7m
 - Project has been expanded to include an additional 17 sites since the deal was signed
- Total Contract was split between CBS and Lime with CBS providing services in breakdown as below;

| Provider | Sites | US\$ Total Revenues | US\$ Revenue per site |
|-------------|------------|---------------------|-----------------------|
| FLOW | 108 | 2,720,000 | 25,000 |
| LIME | 175 | 3,600,000 | 20,300 |

- Additional services to be presented in 2012 for funding include Tele-Education

Flow Grenada bid to provide service to 10 Community Access Points



**Flow
Trinidad's
*Aim. Aspire.
Achieve*
Program**



Partnering with
Hop Along
Learning, I-Learn
and The
Community Hub

Committed to
improving student
learning through
technology.



GOVERNMENT ACTION

Broadband Technology Opportunities Program (BTOP) - \$4.7 billion



- ☐ \$250M earmarked for “competitive grants for innovative programs to encourage sustainable adoption of broadband service”
- ☐ \$200M earmarked for “competitive grants for expanding public computer center capacity, including at community colleges and public libraries”
- ☐ \$250M for “developing and maintaining a broadband inventory map”
- ☐ \$10M for oversight and auditing

Rural Utility Service (RUS)



- ☐ \$2.5 billion in grants, loans, or loan guarantees
- ☐ 75% of investment must serve rural area

International Examples of Broadband Stimulus



Canada > \$200 million over three years

- Extend broadband coverage to unserved rural communities

France > \$1 billion, initial public investment into 10yr, \$13 billion plan.

- Provide universal coverage by 2010 and "ultrafast" broadband to million households by 2012

Japan > \$370 million over two years

- Extend broadband to unserved communities

South Korea > \$1 billion, initial public investment of \$24.6 billion plan

- Upgrade broadband to reach 30 million households by 2012

Japan: \$31 billion,
“i-Japan 2015
strategy”

- Intelligent transportation systems, fiber network for health care, e-government, energy efficient ICT

France: \$73
million

- E-government investments, including “Serious Gaming”, Web 2.0 applications and other miscellaneous e-government public purchases

Canada

- Allowed companies to expense in the first year all ICT investments for 2 years. (worth \$700 million Canadian)

Summary

- Results prove that Prices are falling; Service is improving
 - BROADBAND REVENUE STREAMS ARE GROWING SIGNIFICANTLY
 - PRIVATE SECTOR PLAYERS WILL CONTINUE TO INVEST IN THE REGION
- Governments recognize the importance of ICTs
 - MANY STUDIES SUGGEST POSITIVE RETURNS CAN BE EXPECTED FROM INVESTMENT IN BROADBAND INFRASTRUCTURE
- Finding a solution to the “last mile will require investments from both the Private Sector & Government

“Broadband access is a tipping point for economic development. It can generate jobs, drive growth and productivity, and underpin long-term economic competitiveness”

ITU secretary-general Hamadoun Touré

THANK YOU



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