St Vincent and Grenadines

1 Key Features

The Caribbean islands of Saint Vincent and the Grenadines (SVG) are located in the southern portion of the Windward Islands where the Caribbean sea joins the Atlantic. The nation had a total estimated population of just 109,460 in 2016, of which about 15% are concentrated in the capital city of Kingstown on the main island of Saint Vincent, where about 92% of the total population reside. With a total area of 392 sq km the country is relatively densely populated (over 300 inhabitants /sq km). The Grenadines include 32 islands, nine of which are inhabited, the largest of which are Bequia, Mustique (privately owned), Canouan, and Union. Bequia is the second most populated island, with about 10, 000 people.
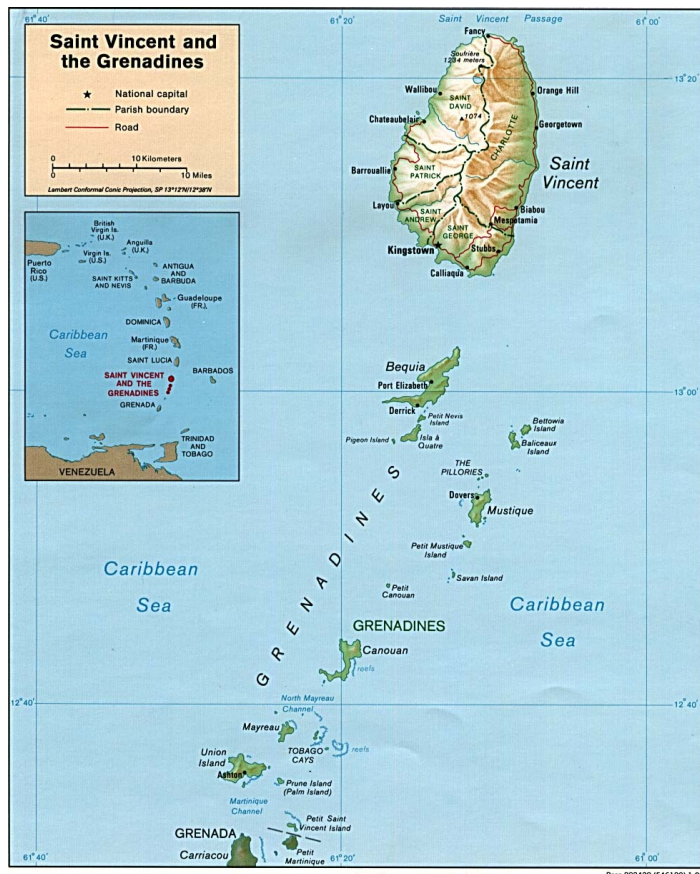
Source: University of Texas

Most Vincentians are descendants of Africans brought to the island to work on British plantations, as a result English is the official language, although most Vincentians speak Vincentian Creole. Saint Vincent and the Grenadines is a parliamentary democracy and constitutional monarchy with Queen Elizabeth II as head of state.

Agriculture, dominated by banana production, is the most important sector of this lower-middle-income economy with a GNI/capita of US 6670[1]. The services sector, based mostly on a growing tourist industry, is also important in the 1.23Billion GDP economy estimate for 2016.

While overall literacy is relatively high, a national literacy survey (2002) revealed limited literacy among persons with only a primary education. The survey found that only 67.3% of persons who have a primary education can demonstrate basic literacy competencies.

Domestic and international connectivity infrastructure is relatively well developed in SVG and consequently there is a fairly high penetration of Internet use and telephony. With over 100% mobile

penetration (due to multiple SIM cards in use by a single subscriber), and 20% fixed line penetration, as well as pay-TV, the uptake of mobile and fixed broadband is substantial. The national regulatory authority (NTRC) estimated that about 65% of the population were Internet users in 2015, a significant jump from the 47.5% found in 2012.

Although the SVG telecom/ICT sector is open to competition in all segments, following the CWC/Colombus merger, fixed line services are now a monopoly provided by Flow, which also competes in the mobile market with the only other licensed operator – Digicel, which is also beginning to move into fixed line services, particularly fibre, in its other nearby markets. To provide Internet services, the operators mainly make use of EDGE/ 3G, 4G/LTE, as well as ADSL on copper fixed lines, cable TV (coaxial) connections, and fibre to the premises (see below). Of note is the relatively high number of fixed broadband subscribers – almost 20% of the population has a fixed broadband subscription.

The relatively high number of domain name registrations compared to other countries in the region is due to the appeal of the .vc domain to venture capital enterprises around the world, and the registration rules do not require a local presence in the country, resulting in a majority of domains being registered off-shore.

[1]http://data.worldbank.org/country/st-vincent-and-the-grenadines

2 Connectivity Indicators

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	Year	Total	Penetration (as a % of population)
Population		109,460	
Mobile Subscriptions (SIM cards)		110,070	100.3%
Internet Users			
Broadband Subscriptions, mobile		50,957	47%
Broadband Subscriptions, fixed		19,654	18%
International capacity in use		TBC (Gbps)(Kbps/capita)	
AS Numbers		2	
IP addresses (v4/v6)		30,208	
ccTLD Domain Names registered		49,687	

Sources: http://www.ntrc.vc/general/telecommunications-statistical-data and / http://www.nirsoft.net/countryip/vc.html / http://research.domaintools.com/statistics/tld-counts / http://bgp.he.net / http://www.facebook.com / http://www.google.com

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3 National ICT Policy & Regulatory Frameworks

3.1 Authorities

ICT Policy Agency	[The Ministry of Foreign Affairs, Foreign Trade, Commerc](#)e and IT	The government of SVG department specifically responsible for ICTs, and it has appointed a Minister of Information.
National Regulatory Authority	[The National Telecommunications Regulatory Commission (NTRC)](#)	The NTRC was established by the 2001 Telecommunications Act[1], and is also responsible for spectrum and the Universal Service Fund. [1](#) http://ntrc.vc/docs/about/telecom_act_2001_SRO_NO_1.pdf
Universal Service Agency	NTRC	Comments
ccTLD registry	Name	Comments
ICT Statistics agency(ies)	Name(s)	ICT Statistics gathered
Radio Spectrum Management Agency	NTRC	Comments

3.2 Policies and Regulations

National ICT Policy and Broadband Plan	Names and Links to documents, (date)	Comments, plans
Basic Telecom Law (Legislation and regulations on market entry/licensing and competition)	The Telecommunications Act (Cap 418) of the Revised Law of St. Vincent and the Grenadines of 2009 governs the ICT sector.	SVG has had a national ICT Strategy and Action Plan 2010-2015[1] which focussed around the WSIS action lines and sets priorities for areas including: [1](#) http://caribbean.cepal.org/content/st-vincent-grenadines-national-ict-strategy-and-action-plan-2010-2015 http://www.gov.vc/images/stories/pdf_documents/svgictstrategyfinal.pdf
Infrastructure sharing regulations	Names and Links to documents, (date)	Comments, plans
Interconnection regulations	Names and Links to documents, (date)	Comments, plans
Cybersecurity/e-commerce/privacy	Names and Links to documents, (date)	Comments, plans
Intermediary liability legislation	Names and Links to documents, (date)	Comments, plans
Universal Service legislation	Names and Links to documents, (date)	Comments, plans
Radio spectrum regulations and assignments	Names and Links to documents, (date)	Comments, plans
Policies to reduce gender imbalance and increase the role of women	Names and Links to documents, (date)	Comments, plans

The Telecommunications Act (Cap 418) of the Revised Law of St. Vincent and the Grenadines of 2009 governs the ICT sector. SVG has had a national ICT Strategy and Action Plan 2010-2015[1] which focussed around the WSIS action lines and sets priorities for areas including: Cyber security and e-commerce provisions, IXP, e-Government, cloud computing, ICT training, public access facilities and streamlined licensing procedures.

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Parliament is currently debating the introduction of the Cybercrime Bill[2], modelled on the regional template developed during the ITU HIPCAR[3] project. SVG was an active participant in HIPCAR which aimed to support ICT policy development in the region with financial assistance from the European Commission in collaboration with CARICOM and the CTU. The HIPCAR assessment indicated that except for local loop unbundling, SVG provided most of the desired regulatory instruments (such as infrastructure sharing, electronic transactions, data privacy, etc) needed to effectively administer the sector.

This process has been assisted by SVG's membership in the Eastern Caribbean Telecommunications Authority, ECTEL (https://www.ectel.int) which has been working to support policy and regulatory development and harmonisation in the sector among its five member states – Dominica, Grenada, St Kitts & Nevis, St Lucia and SVG. Of particular note is that ECTEL has now completed draft regulations in a number of key areas[4]:

- Regulation on Guidelines on market analysis and the assessment of significant market power in the Eastern Caribbean Telecommunications Authority Contracting States for electronic communications network

- Regulations on Access to Network Infrastructure and Wholesale Services.pdf

- Infrastructure Sharing Regulations

- International electronic communications access to essential facilities at Cable Landing Stations regulations

- Retail Pricing Regulations

- Consumer Protection Regulation (Specific Rules on Consumer Protection in the Electronic Communications Sector)

In 2016, at its 34th regular meeting, ECTEL approved new legislation aimed at boosting competition in the region[5]. The new regulations address issues including consumer protection, submarine cable access, network infrastructure access, and wholesale services rules. A particular focus is to address access issues on networks held by dominant operators, and also to publish guidelines on the conduct of market analyses. This was partly stimulated by the impact of Cable and Wireless (CWC)'s acquisition of Columbus International - the new legislation has been introduced after ECTEL announced it had been unable to reach an amicable agreement over market performance obligations with CWC/Flow following its acquisition of Columbus International, and because ECTEL's members would otherwise have insufficient legal standing to stop or impose remedies on the companies involved.

The World Bank's Caribbean Regional Communications Infrastructure Programme (CARCIP) is currently supporting the development of a national broadband plan for SVC.

1 http://www.gov.vc/images/stories/pdf_documents/svg%20e-gov%20network%20s...

2 http://www.icdf.org.tw/ct.asp?xItem=8784&CtNode=29823&mp=2

1 http://caribbean.cepal.org/content/st-vincent-grenadines-national-ict-strategy-and-action-plan-2010-2015
http://www.gov.vc/images/stories/pdf_documents/svgictstrategyfinal.pdf

2 http://www.assembly.gov.vc/assembly/images/stories/cybercrime%20bill%202...

3 Harmonization of ICT Policies, Legislation and Regulatory Procedures in the Caribbean-
https://www.itu.int/en/ITU-D/Projects/ITU-EC-ACP/HIPCAR/Documents/FINAL%20DOCUMENTS/ENGLISH%20DOCS/interconnection_assessment.pdf

4

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4 Network Infrastructure

4.1 International connectivity

SVG currently has direct access to two cable systems the Eastern Caribbean Fibre System (ECFS) and the Southern Caribbean Fibre (SCF[1]) which land on the main island of Saint Vincent. ECFS provides connectivity to other islands in the region and to the global backbones via the terminating point in the US Virgin Islands, a hub where many other submarine cables land. Similarly, SCF has connectivity to the cable hubs in Puerto Rico and the British Virgin Islands, as well as to additional Caribbean islands and also provides security of links to neighbouring islands and the global hubs in the event of a major outage on the ECFS.

Map: Submarine cable infrastructure connecting SVG
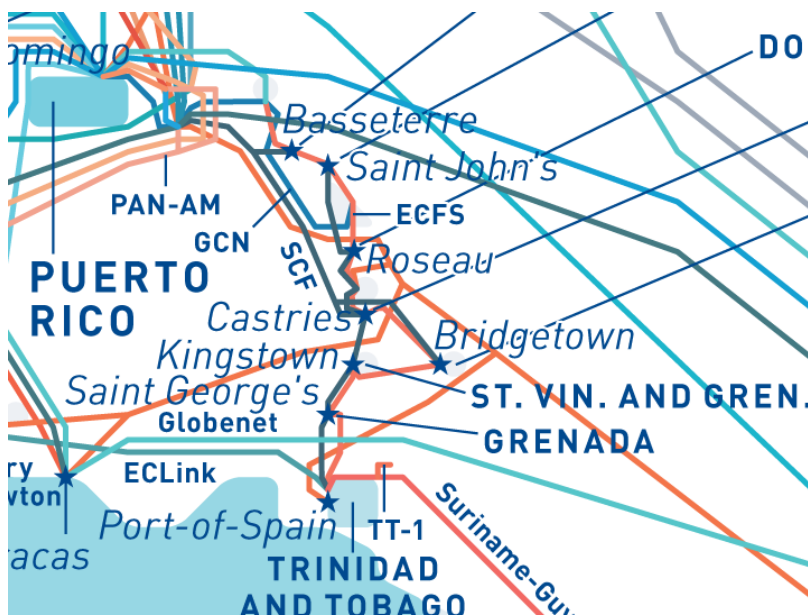
Source: PCCW Telegeography cable map http://submarine-cable-map-2016.telegeography.com/

ECFS is a 'festoon' system – a repeaterless fibre optic submarine cable that interconnects fourteen eastern Caribbean islands. The six-pair cable is 1730 km in length and runs from Anguilla to Trinidad. ECFS was first installed in 1995, however a system upgrade was carried out in 2014/2015 by Xtera which converted the cable to support 34 100G channels, even on the longest unrepeated segments of up to 400km, giving a total capacity of 3.4Tbps. Prior to the Lime/Flow merger, C&W/Flow had a 72% ownership in ECFS, with the remainder divided among LIME, Digicel and several other carriers.

The SCF is also a repeaterless system, about 3,000 km in length with a total system capacity of 5 Tbps. SCF began service in September 2006 as the southern part of the Global Caribbean Network. The system is composed of 4 to 8 fibre pairs, depending on the segment, and the architecture is based on two main elements – an omnibus leg connecting Trinidad to St-Croix and Puerto-Rico, implemented by Alcatel Submarine Networks, and an express leg linking Barbados to St-Lucia and St-Croix as a repeated system composed of 2 fibres pairs implemented by Tyco.

The owners were originally Leucadia National Corporation and the Loret Group when the Regional Council of Guadeloupe awarded the company a Build/Operate/Transfer (BOT) contract for a submarine fibre optic cable system linking Guadeloupe, St Martin and St. Barts to Puerto Rico. For resilience a branching unit between Puerto Rico and St. Martin connected that cable to the US Virgin Island hub at St. Croix. As a

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result of the "ACP Numérique" conference, held in Guadeloupe in May 2005, the Organization of Eastern Caribbean States (OECS) countries decided to extend the cable to Martinique and Dominica, which laid the foundations for further extension to the remaining islands all the way to the southern-most point at Trinidad and Tobago. At the time of the project, ECFS was the only submarine capacity to St. Kitts, St. Lucia, St. Vincent, Grenada and Antigua and redundancy on this route was a further motivation for the cable.

Map: Global Caribbean Network (GCN) backbone

Source: http://www.southern-caribbean.com

The two companies (Leucadia and Loret) created Global Caribbean Fibre (GCF) to be the operating company responsible for the different key parts of the network – namely SCF, the Middle Caribbean Network (MCN) and Antilles Crossing. In late 2013 mobile operator Digicel acquired MCN, SCF, Antilles Crossing and a number of related assets from GCF. This provided Digicel with a wholly owned submarine cable of approximately 2,100 km stretching from Trinidad to Guadeloupe. Digicel also contracted with GCN to provide capacity from Guadeloupe to Puerto Rico with onwards connectivity to the U.S. mainland.

With only two cables serving most of the eastern Caribbean states, it appears that demand for additional submarine cables will drive further deployment, to increase resilience and as a response to the lack of competitive pressure on capacity prices. In addition, with routes to the south via Trinidad, along with new cables being planned between South America and Europe, Africa and onward to Asia, there is likely to be increased interest in routing traffic south from the rest of the Caribbean along the cables connecting SVG.

The three countries of SVG, St Lucia and Grenada are in the early stages of deploying a cable to link the three countries and the smaller islands in between, with support from the World Bank's CARCIP[1]. The EOI for the project was announced in May 2016. The bids for the cable require that it must land 'at a minimum' in:

- St. Vincent

- Bequia

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- Mustique (private island)

- Canouan

- Union Island and

- Carriacou

In addition, in September 2016 Denis O'Brien, founder and chairman of Digicel announced a 'personal project' to invest up to US 450 million in a submarine cable linking about 30-40 countries in the Caribbean region[2].

1 https://www.worldbank.org/projects/procurement/noticeoverview?id=OP00037674

2 http://www.independent.ie/business/denis-obrien-to-invest-up-to-450m-on-...

1 http://www.southern-caribbean.com/

4.2 Public Network Operators

The dominant operator is Flow, which provides both fixed, mobile and cable TV services, following the merger of the parent company Cable & Wireless Communications (CWC) with Columbus International, the parent of competitor Flow/Karib Cable for approximately US$1.85 billion. Shortly afterwards the new group was bought by US based Liberty Global, which is one of the world's largest international TV and broadband companies, with almost 30 million subscribers and operations in more than 30 countries across Europe, Latin America and the Caribbean[1]. Liberty Global's of the merged group, which was finalised in May 2016, has made it the dominant operator in about 12 countries in the Caribbean.

With the merger of co-axial cable-TV and copper fixed line telephony networks, Flow manages a mix of both technologies. In addition, Flow's core network infrastructure in the island of Saint Vincent is constrained by the rugged terrain which inhibits use of ring-type architectures due to the lack of roads that circumnavigate the island. As a result, the infrastructure only supports point to point topologies, which can make the network more prone to failure as there are no alternative network paths.

Flow also operates a microwave network to the larger Grenadine Islands including Bequia, Mustique, Canouan, and Union Island. This network is configured in a ring structure, providing backup in case of failure of one of the links. Canouan and Mayreau have more limited bandwidth.

Flow also provides MPLS/Metro Ethernet services, however, its coverage is limited to a small area around Kingstown due to lack of demand from either government (which operates its own network) and few large commercial clients.

Digicel SVG, part of the global telecom group founded by Irish entrepreneur Denis O'Brien, is the only other competitor on the island. The company claims to cover 98% of the population of SVG, with footprint in the five main islands as shown in the maps below. In neighbouring countries Digicel has launched 'Digicel Play', and is likely to do so in SVG shortly. Using fibre to offer voice telephony, subscriber television and broadband Internet, the service has so far been rolled out in Anguilla, Barbados, Dominica, Jamaica, Trinidad and Tobago, and the Turks and Caicos Islands, with firm plans to add Saint Kitts and Nevis.

Map: Digicel Mobile Coverage in SVG

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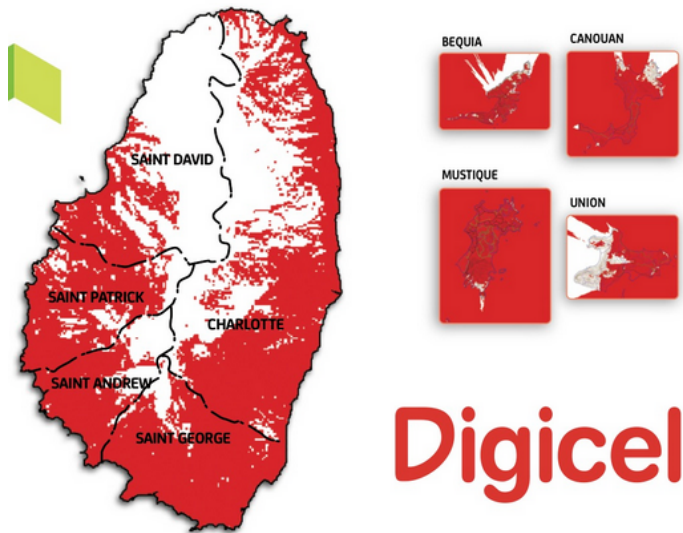
Digicel's core network has been upgraded to 4G /HSPA+ June 2014 and also provides Metro Ethernet and other commercial services using short haul microwave links operating in the unlicensed spread spectrum bands. Digicel's backhaul network is primarily microwave-based. It protects its core network in SVG by using multipath radio diversity and self-healing rings along the South-Western coast of the island for network resiliency and redundancy. Core switching services for SVG are performed in Grenada. The main microwave links to the other Grenadine islands are not redundant.

Both Flow and Digicel are using existing utility poles owned by St. Vincent Electricity Services Ltd. (VINLEC).
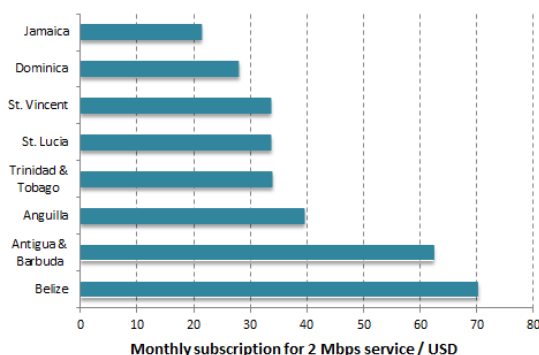
Pricing data[2]

Prepaid calling rates on Flow (offnet and on net) are about 0.89US/minute

Flow[3] fixed broadband is US33/month for 2Mbps down 1Mbps up, while 100Mbps down/15Mbps up is US 126/month. FLOW mobile broadband 3G/4G is US18.4 /Gb valid for month for 1GB, US46 for 5GB/month, 0.26/MB after. Flow bundles Wikimedia sites at no cost to the subscriber. TV/Internet 'bundles are available, for example TV plus 2/1Mbps broadband is US 64/month.

On Digicel a 1GB bundle costs US14.8, valid for 30 days, 5GB /costs US44/month.

While mobile broadband costs are similar across the region, as can be seen, SVG has fixed broadband services that are relatively low compared to some of the other countries in the region.

Chart: Costs of 2Mbps Fixed Internet Service in the Eastern Caribbean (2016)

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The pricing data was taken from the operators listed in the table below, which shows how Flow can leverage its presence in so many markets – it provides broadband services in a total of 12 out of the 18 countries, surveyed, compared to just 5 for Digicel.

Country	ISPs surveyed
Anguilla	Flow, Carib. Cable
Antigua & Barbuda	Flow
Aruba	Setar
Bahamas	BTC, Cable Bahamas
Barbados	Digicel, Flow
Belize	Belize Telemedia
British Virgin Islands	Flow, CCT
Cayman islands	Flow, Logic
Curaçao	Flow, UTS
Dominica	Digicel, Flow
Grenada	Flow
Guyana	eNetwork, GT&T
Jamaica	Digicel, Flow
St. Kitts & Nevis	Flow
St. Lucia	Flow
St Vincent & Grenadines	Flow,
Trinidad & Tobago	Digicel, Flow, TSTT
Turks & Caicos Islands	Digicel, LIME

1 https://www.libertyglobal.com/about-us.html

2 Pricing data converted from EC Dollars @ 1 =0.37USD

3 https://discoverflow.co/saint-vincent/internet/plans

4.3 GOVERNMENT Networks

The principal operational ICT organisation in the SVG government is the Information

Technology Services Division[1] (ITSD), a department of the Ministry of Foreign Affairs, Foreign

Trade, Commerce and Information Technology. ITSD is responsible for implementation and operation of computer systems for all government agencies, and it operates a Government Wide Area Network (GWAN) that serves most government-owned and government-leased buildings in downtown Kingstown. As part of the GWAN, almost all government buildings in Kingstown are now connected with fibre. While VoIP is used between government offices, video conferencing facilities are more limited and mainly used for regional meetings. The key agencies using the system include:

- Ministry of Finance and Planning

- Treasury Department

- Inland Revenue Department

- Ministry of Education

- Social Welfare Department

- Prime Minister's Office

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- Police Department

- Ministry of Health and the Environment

- Kingstown General Hospital

- Ministry of Trade

- Ministry of Agriculture

- Ministry of Communications and Works

- E.T. Joshua Airport

ITSD also operates a data centre that hosts servers and other equipment for its users. It is in the process of planning a fixed wireless network to extend connectivity to other institutions and even schools, and it is also developing strategy to implement a Public Key Infrastructure (PKI), as well as a disaster recovery centre.

The government has also made connecting schools to its network a high priority. About 34 educational institutions have Internet connectivity via computer labs - which includes 18 primary schools and 12 secondary schools. While most institutions have Internet access via the principal office/lab, the number of students per PC in these institutions is over 50. To help address this, wifi hotspots have been installed at all educational institutions in SVG and at various community centers and tourism sites, put in place by the NTRC via the Universal Service Fund (USF).

The Ministry of Health, Wellness and the Environment maintains a Health Information System that is used in approximately 45 locations across St. Vincent. There are over 200 end users of the system from approximately 120 workstations. All Ministry of Health facilities have Internet access. The clinics and district hospitals at Bequia, Union Island, Chateaubelair, Mesopotamia Valley, and Georgetown are interconnected using VPNs over 8 Mbit/sec cable modem connections to the Internet using Flow's network. The Milton Cato Memorial Hospital and the clinic at Mayreau both have an 8 Mbit/sec Internet connection from LIME. St. Vincent introduced the One Laptop Per Child (OLPC) program in 2011. To date, about 30,000 laptops have been distributed. This has supplemented the availability of digital access devices significantly throughout the country. In support of the OLPC initiative, each school has an 8Mbit/sec Internet connection that is being provided by LIME under contract.

[1] http://www.gov.vc/images/stories/pdf_documents/svg%20e-gov%20network%20s...

4.4 Private Networks

Little information is available on private networks that have been authorised in SVG. A number of banks and other corporate institutions either use the fixed networks, satellite links or wireless networks provided by the two operators.

4.5 Civil Society/NGO Networks

Most probably due to the relatively extensive commercial infrastructure there have not been any independent networks set up by NGOs or other civil society organisations.

4.6 Interconnection and hosting

4.6.1 Data centers

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4.6.2 IXPs
4.6.3 Caching and other shared services

4.7 Capacity building Infrastructure

As yet there is no national education and research network (NREN) in SVG, however the country has been included in the planning and assessment for the development of the Caribbean Research and Education Network (C@ribNET). The agreement establishing the Caribbean Knowledge and Learning Network Agency (CKLNA) to operate C@ribNET has been signed by SVG. The network has been operational since 2012 and aims to connects all CARICOM countries and to the world's research and education community, through AMPATH to North America, through Géant to Europe and RedCLARA to Latin America.. C@ribNET currently operates an STM-1 backbone between Jamaica, Trinidad & Tobago, Dominican Republic and Florida which can be upgraded to an STM4 (622MBps. C@ribNET also connects the Dominican Republic to Geant (Paris) with an STM 1 and Jamaica to RedCLARA in Panama with a DS3 (45MBps). The network was financed by a contribution of ten million euros by the European Union.

The government of SVG has recently instituted a one-month programme to enhance the capacity of over 700 secondary school teachers in the use of ICT tools in the classroom.

Through an agreement reached with the Taiwan International Cooperation and Development Fund (ICDF), the government of SVG has been building an ICT Centre which is the focal point for national E-Government strategy[1] while providing network facilities, equipment and expertise for implementing cyber-security measures, and the construction of a new government wide web portal through which citizens can access on-line government services[2].

The National Centre of Technological Innovation (http://www.svgncti.org) provides technical ICT training and certification. It was initially set up in 2002 as a Department under the Ministry, and then established as an independent company in 2008.

4.8 Power supply infrastructure

SVG is largely dependent on imported petroleum for electricity generation, supplemented by a small amount of hydro power (3%). Tariffs for electricity use have increased, and the government has a national Energy Plan, published in 2009[1], which notes that many of the diesel generators are old, inefficient, and in need of replacement by newer engines or other means of electricity generation. This is seen as an opportunity to move towards new sources of energy, and exploit a higher proportion of renewable energy sources.

Geothermal power in particular offers promise in the island of Saint Vincent, with potentially sufficient capacity to supply the other islands as well. SVG has just made an agreement with the Abu Dhabi Fund for Development (ADFD) for a US15 million loan to set up a 15MW geothermal power station in the country. The project is being funded as part of the US350 million ADFD/IRENA project facility, set up in 2012, to provide concessional financing for renewable energy projects in developing countries affiliated to International Renewable Energy Agency (IRENA). Exploratory drilling was expected to commence before the end of 2016, with a STG 4 million grant from the UK's Department for International Development (DfID)[2].

1 http://www.oas.org/en/sedi/dsd/Energy/Doc/SVG_NEP_SEP.pdf

2 http://www.caribank.org/news/st-vincent-grenadines-receives-funding-geot...

4.9 Government ICT Programmes and Projects

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4.9.1 E-government

SVG was one of the three CARCIP countries which participated in the US2.4 million World Bank Electronic Government Regional Integration Project EGRIP implementation. EGRIP's overall objective was to promote the delivery of regionally integrated e-government applications in order to take advantage of economies of scale and sharing of resources. The project outcomes included:

- Regionally harmonized legislation related to e-Government

- eID cards rolled out to persons under 18 years of age, with 559 Vincentians registered and 551 cards issued by June 2016.

- The average time to complete a VAT tax filing was reduced from one day to thirty minutes

- About 7,700 tax payers representing about 60% of the tax payer base had submitted 23,325 e-tax filings by June 2016.

- The eProcurement system conducted 6 tenders for a total value of US$ 27 million.

As part of the project, a Multi-Purpose Identification (MPID) System was set up in the three countries. The MPID system, which is to be interfaced with the existing Civil Registry and the Election systems/processes in each participating country, is at various phases of implementation. The Project also on applications in the public finance area and an e-government in health pilot project. The project was to be expanded to cover other sectors including tourism, agriculture, health and education.

Government is using the Standard Integrated Tax Administration System (SIGTAX) to manage tax collection, while ASYCUDA is used in customs and justice software, and JEMS (Judicial Enforcement Management System), has been adopted to facilitate the administration of the Courts, such as cases, payments, warrants, sentencing, docket scheduling, and forms/reports generation.

4.9.2 Education & health

There is currently no curriculum covering ICTs at primary or secondary schools in SVG. Formal education relating to IT or computer science is only available at the tertiary level. However incorporation of ICTs into teaching has been part of a Euro 13.3 million project funded by the European Commission which was to be completed in 2013.

The National Health Information System, is expected to restructure and reengineer the business processes at the hospitals and clinics. A new fibre optic cable was laid to connect the Ministry of Health with the leading Milton Cato Memorial Hospital (MCMH) where telemedicine is being used.

As part of the national ICT strategy SVC plans to launch a Health Information System (HIS) to track patient records, diagnostic tests, discharges summaries, medications, medical supplies, and laboratory results & health trends.

4.9.3 Emergency services

St. Vincent & the Grenadines has two emergency services agencies, the Royal St. Vincent and Grenadines Police Force (RSVGPF) and the National Emergency Management Organization (NEMO). The Fire Service and the Coast Guard are units of the RSVGPF. There is also an active Global Maritime Distress Safety System hosted by Flow and operated and managed by the Coast Guard for maritime emergencies.

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NEMO's primary communications are managed through a series of internal radio networks and connections to the fixed and mobile telephone networks from Flow and Digicel.

4.9.4 Agriculture

The SVG government has plans to introduce an agricultural management information system (NAPMIS) to train farmers and extension staff in the use of information systems and ICT in agriculture.

4.10 Banking & E-payments

The main banks have online services, two of which are subsidiaries of Canadian banks - CIBC and Scotia Bank, along with LoyalBank and the Bank of St Vincent and the Grenadines. The Caribbean Credit Card Corporation is processing card transactions through its network. The government of SVG and some island banks have begun investigating the creation of an intra-island banking network.

4.11 Mass Media

All the major SVG news media are online, including Caribbean News Now, CIBS News Network, The Herald, I-Witness News, News 784, Prensa Caribe, Searchlight, SVG Express, The Vincentian (St Vincent) and The VincyView.

There are about 3 local TV channels that are available through 1 national station SVGTV which broadasts its own signal, and two on cable-TV – IKTV and VC3 and broadband channels along with over 100 international channels as well as Flow's own TV channel and video on demand service. Spectra, a St. Lucian company was granted a cable TV licence in 2014. No data is available on the status of SVG's analog-to-digital broadcast migration process.

5. INFRASTRUCTURE READINESS POLICY CHECKLIST

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6. Commentary

SVC and other countries in the Eastern Caribbean have benefitted from relatively widespread infrastructure and an enabling policy and regulatory environment for ICT services, in part fostered by ECTEL which, in 2000, became the world's first multi-country regulatory telecommunications agency.

The breakup of the Cable & Wireless telephone monopoly and the creation of ECTEL combined with the entry of Digicel has no doubt facilitated the initial uptake of more affordable and pervasive broadband services. However, in what was already a fairly concentrated market with only 3 players (Lime, Flow and Digicel), this has now been reduced to two, following the merger of Lime and Flow. This is likely to put a heavier responsibility on ECTEL and the local regulatory authority NTRC, to ensure the country continues the trend toward improved connectivity, and is not disadvantaged by the duopoly environment. In this respect the adoption and implementation of the new draft ECTEL regulations is likely to be a key step in this direction.

Nevertheless, with 50% of SVC's population living in rural areas of which some are dispersed across small islands, it is not going to be a simple matter to extend affordable connectivity services to those at the bottom of the pyramid. This will likely require a concerted approach, that addresses all of the elements in the value chain, from encouraging passive infrastructure sharing, local loop unbundling, wholesale price regulation, provisions for MVNOs and more spectrum availability, to increased international submarine

fibre connections.

Considering that international capacity is a major part of the cost of providing local broadband services, the plans for additional submarine links bodes well. However the scope of the planned CARCIP cable may need to expand beyond the ECTEL members, to include additional islands to the north and/or south in order to gain the most benefit from the investment. St Lucia, SVG and Grenada already have direct links between them via two different cables, so the new cable is unlikely to confer much advantage unless it is also used to extend connectivity to the nearby islands that have access to multiple additional cables, namely Trinidad in the south and Martinique in the north. This could be implemented using low-cost repeaterless technology as the distance between Carriacou/Grenada and Trinidad is about only about 200-250kms, and from St Lucia to Martinique the distance is less than 100kms.

With regard to the ability to withstand the hurricanes that are common in the region, SVC's core infrastructure is by coincidence actually relatively well prepared to deal with these events. The backbone fiber optic networks were deployed using two different methods; one being primarily aerial and the other being mostly underground through a duct / conduit system. These deployment methods provide for a level of resiliency where the chances of failures of both networks within the same geographical area are low - the aerial infrastructure might be susceptible to winds and flying debris in harsh weather, while the underground infrastructure is more vulnerable to landslides and road washouts during heavy rains.

7. Country contacts and online resources

ECTEL. 2016. Consultation on Adoption in ECTEL States of Regulations Addressing Guidelines for Market Analysis, Access to Network Infrastructure and Wholesale Services. http://www.ntrc.vc/consultation-on-adoption-in-ectel-states-of-regulations-addressing-guidelines-for-market -analysis-access-to-network-infrastructure-and-wholesale-services

ECTEL. 2016. Regulations on International electronic communications access to essential facilities at Cable Landing Stations. http://ntrc.vc/Annex%20D%20-%20International%20electronic%20communications%20access%20to%20es sential%20facilities%20at%20Cable%20Landing%20Stations%20regulations.pdf

SubTel Forum Report 5. 2016. http://subtelforum.com/Report5

Comments

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