

PUBLIC SUMMARY

MEETING OF THE TECHNOLOGY DEVELOPMENT GROUP

Friday 17 September 2021

Present:	Andy Keeling	CE	Chief Executive (Chair)
	Catherine Silva Donayre	DDCS	Director of Development & Commercial Services
	Geoff Baxter	DDDCS	Deputy Director of Development & Commercial Services
	John Whitby	CR	Communications Regulator
	Christian Williams	CW	Information Technology
	James Bates	JB	Falkland Islands Fishing Companies Association
	James Prior	JP	Information Technology
	Justin McPhee	JMP	Sure
	Lee Summers	LS	Chamber Technology Lead (Representing GG)
	Michael Ford	MF	Community Representative
	Nick Pitaluga	NP	Rural Business Association (Representing LC)
	Paul Brickle	PB	SAERI
	Pippa Christie	PC	Hydrocarbons
	Rachael Crowie	RC	Falkland Islands Tourist Board (Representing SM)
Apologies:	Gareth Goodwin	GG	Chamber Technology Lead
	Lewis Clifton	LC	Rural Business Association
	Stephanie Middleton	SM	Falkland Islands Tourist Board
	No representatives:		BFSAI Representative Retail Sector Construction Sector
Minutes:	Meghan Law	EA	Executive Assistant & TDG Secretary

1.0 Confirmation of the minutes of the meeting held on 25th June 2021

The minutes of the meeting held on the 25th June 2021 were confirmed as a true and accurate record.

2.0 Matters arising from the minutes of the meeting held on the 25th June 2021

2.1 All actions were complete.

3.0 Sure Improvements Programme

JMP gave a presentation beginning with an update following on from the last meeting of the TDG in June, noting that a number of works are still in progress.

JMP stated that the 4G project, agreed with FIDC, is the largest project Sure will undertake in 2021 with the Sure team already working hard to deliver it. JMP informed the TDG that works to Goose Green, Bombilla Hill, Fitzroy Ridge, Mount Pleasant Peak, Fitzroy (redeployed) and North Arm (redeployed) have now been completed. The next step is to head to West Falkland to complete works before returning to East Falkland; this work is dependent on weather. JMP suggested that with these improvements it will open up opportunities for flock/asset tracking if required.

JMP highlighted the existing and new 4G coverage heat maps; explaining that red provides the highest level of coverage going down to blue which shows where LTE signal can be sourced. NP commented that populated areas in West Falkland still will not have coverage as per the heat map presented by JMP; JMP advised that the coverage reflects the investment and the terrain but added that additional settlements could be looked at on a case-by-case basis.

DDDCS queried if the improvements to 4G would increase signal quality and whether there would be heat maps to show signal strength before and post improvements; JMP advised that Sure undertake network testing regularly as part of their commitments with the CR and FIG.

JMP outlined the remaining projects for 2021, commenting that industries are still experiencing significant shipping delays as a result of Covid, however some equipment is now arriving in the Islands. JMP stated that Sure's main focus for 2021 is Camp improvements with a continued rolling replacement of equipment. Sure are also now configuring plans for 2022, in line with their financial year.

JMP stated that work is ongoing in Bennetts Paddock and central Stanley to shorten line lengths on the copper network.

LS queried if the Quality of Service probes have gathered useful data; JMP advised that they were only received on the shipment which arrived week commencing the 6th September. Following the arrival, the Sure team commenced cabling works and once ready they will begin testing – a report should be ready by the end of the year. CR commented that once they have been configured they can be effectively used to gather specific sets of data.

JMP detailed the top traffic types for August 2021, which presented three video-based channels as the highest use of data. CR queried if a graph showing use in Stanley and in Camp could be shared; JMP advised that due to data protection issues this was not possible. CW also queried if the time spent on websites could be shared, with CE adding that would be useful between business/personal use; JMP noted that he was unsure if data on browsing time per website can be shared however there is a visible trend increase during the on-peak early evening/lunchtime hours and a drop in the National bandwidth during working hours. There is another spike after midnight in the free time but since packages have been increased this now tails off quicker than in previous years. JMP advised that he will include these graphs at the next TDG.

LS queried what the 'Unknown' website was; JMP advised that the sever has library books that identify traffic type and is updated automatically every month, therefore some sites are not immediately distinguishable. JMP detailed some of the sites that have been shortened.

LS queried if there is a difference between the upload and download on sites; JMP clarified that the graph shows total traffic but primarily the Falkland Islands tend to download more content.

MF queried if Sure have filters in place or blocked sites; JMP informed the TDG that Sure are part of the Internet Watch Foundation (IWF) which applies blocks unilaterally and is updated regularly, as well as this Sure give advice and links on their website for internet safety. JMP stated that he would look into wider parental controls and bring that back to the group for discussion; MF suggested that an opt out service would be preferred to protect families and children in particular.

CE thanked JMP for his informative presentation adding that as the Group becomes more established it would be beneficial to have a website for content relating to the TDG, excluding anything that is commercially sensitive. CE noted that telecommunication is a live public interest and it is important that the community and businesses are able to see what the TDG encompasses.

4.0 Sector Presentation – Information Technology

CW and JP gave a presentation to the TDG.

CW highlighted that Synergy Information Systems Limited's focus is split into "National Broadband" and "International Broadband".

CW detailed the need for improved National broadband and the type of traffic it generates locally; giving one example of a user that has multiple sites (FIG). CW advised that over time there has been an improvement to offsite back-ups however at present approximately 60% of customers still use a hard drive for this purpose. CW noted that they have trialled using Sure's earth space to back up information however it is time consuming to retrieve the data.

CW noted that as a result of Covid there was an increased demand for remote access across all sectors.

CW detailed the types of connection available for National broadband: asymmetric digital subscriber line (ADSL), single-pair high-speed digital subscriber (SHDSL), very high-speed digital subscriber line (VDSL), fibre optic, wireless bridging and wandering data.

CW queried if new housing developments are being connected via fibre optic cable; JMP confirmed that ropes are being rodded in preparation for the arrival of fibre optic cabling. JMP noted that installation is a specialist skill and is expensive.

NP queried if these improvements will assist in the Camp Education requirements so that there isn't such reliance on telephone lessons. JMP stated that the improvements to Camp are on a rolling programme.

CW advised TDG that speeds are impressive with wireless bridging however it does require line of sight which presents a problem within the Falklands.

CW queried if the wandering field connection is omnidirectional; JMP advised that the WiMAX system is driven around where broadband customers reside. PB commented that SAERI have a number of remote sites that use Iridium provision and queried if this would be an option where data sets are relatively small in size; JMP explained that it is not a general internet connection and therefore only provides some capacity, suggesting that customers should approach Sure directly to discuss specific bespoke project needs. NP queried if the WiMAX equipment could be mounted to a vehicle to allow for flexibility; JMP explained that the ferry has this system however movements are very different to vehicular movements and it is unlikely to behave in the same way that a mobile network would. JMP advised that omnidirectional access is possible however it does reduce the strength of the connection.

CW outlined the improvements needed to the National broadband service: increased bandwidth on DSL options, cost effective options and standardised/advertised options.

JP outlined the International Broadband services.

JP explained that cloud services such as SaaS, PaaS and IaaS are mostly aimed at businesses. As a result of Covid these services are beginning to be used much more.

JP noted that there are restrictions locally due to the limited bandwidth. CR highlighted that in the future cloud services will become the default option; JP agreed but stated that further improvements are required first.

CE thanked CW and JP for their presentation. JP left the meeting at 15:05hrs.

The TDG discussed the MiPlayer arrangement. LS queried why the quality can sometimes be poor when streaming; DDCS advised that videos are delivered in SD not HD.

5.0 Sector Presentation – Falkland Islands Fishing Companies Association

JB gave a presentation to the TDG explaining that generally FIFCA are unique in that they don't have same issues as other users in the Falkland Islands due to vessels having their own internet provision.

JB explained that due to self-provision on vessels communication between shore-based offices and vessels is to a good standard via satellite phones, WhatsApp and other social media platforms.

JB explained that FIFCA's thoughts on connectivity is that fast, modern, affordable and reliable internet is critical to the Falkland Islands; a feeling that was shared within the business climate survey and with the Chamber of Commerce. JB advised that vessel repair and maintenance (including verification) can now be done remotely, and remote catch verification/weighing is a well-recognised industry practice.

JB advised the TDG that the industry are now using Cloud based applications for limited services such as emails and communication rather than for higher storage; however, noted that feedback given within the presentation at Item 4.0 will be circulated within the Association.

JB shared general comments from the members of FIFCA.

JB expressed that the larger and cheaper WIFI cards are hugely appreciated by the industry, especially the work that the Seafarers Mission have done to ensure that seafarers have greater access to this service.

JB outlined that future opportunities for the industry may be taken up for automated catch verification/electronic monitoring and live 24-hour data streaming; this would reduce costs if the technology is reliable enough to support the service. PB explained that electronic monitoring is very data heavy and would need to be facilitated on shore; JB stated that this is current industry practice that is being utilised in other fisheries internationally and therefore has been included as a potential future consideration for FIFCA members.

6.0 Any Other Business

6.1 Public Domain

CE noted his intention to establish a TDG webpage to allow for circulation of presentations, public summaries and other information as necessary to promote the TDG's work in the public domain.

6.2 Community Representative

CE stated that MF has now taken up a position with the Shield Programme, FIG. CE queried if the TDG members were content for MF to continue as the community representative; all were content. MF highlighted that the Group need to establish the mechanisms available to ensure that he can represent the community as a whole.

6.3 Vacant Sector Representatives

The TDG discussed the sectors which currently have vacant representatives: BFSAI, retail and construction. LS advised that as the Chamber of Commerce representative he will approach members to fill the retail and construction sectors. EA advised that she will contact the new Command Secretary to ask if they would represent the community at MPC.

7.0 Confirmation of Date of Next Meeting : 17th December 2021

7.1 EA confirmed the next meeting of the Technology Development Group is scheduled to take place on Friday 17th December 2021 at 13:30 in the Liberation Room, Secretariat.

There being no other business the meeting closed at 15:30hrs.

Sure Falklands

TDG Briefing
Sept 2021



4G Mobile Expansion



4G Project

4G sites completed

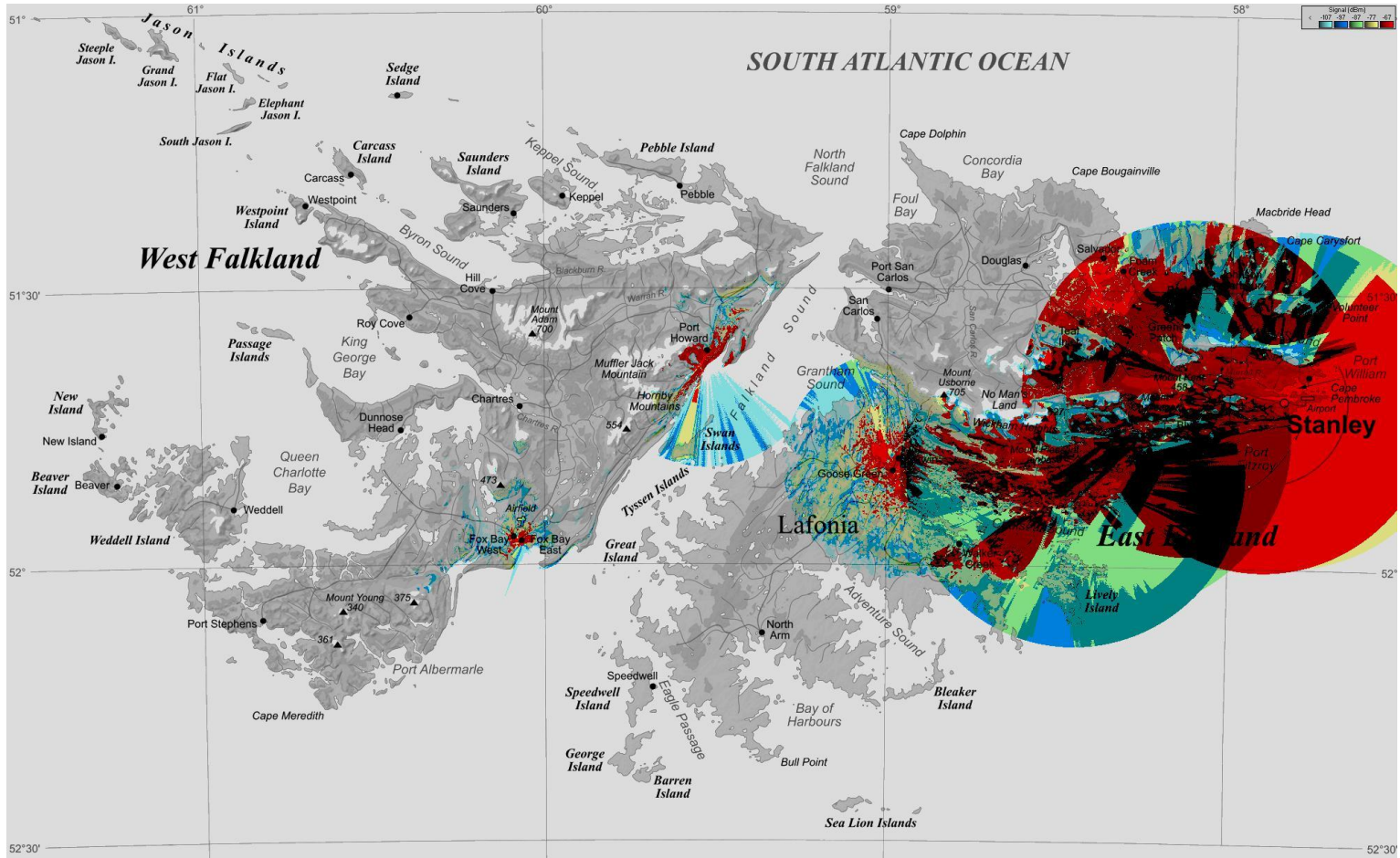
- Goose Green
- Bombilla Hill
- Fitzroy Ridge
- Mount Pleasant Peak
- Fitzroy (redeployed micro)
- North Arm (redeployed micro)

4G sites to do

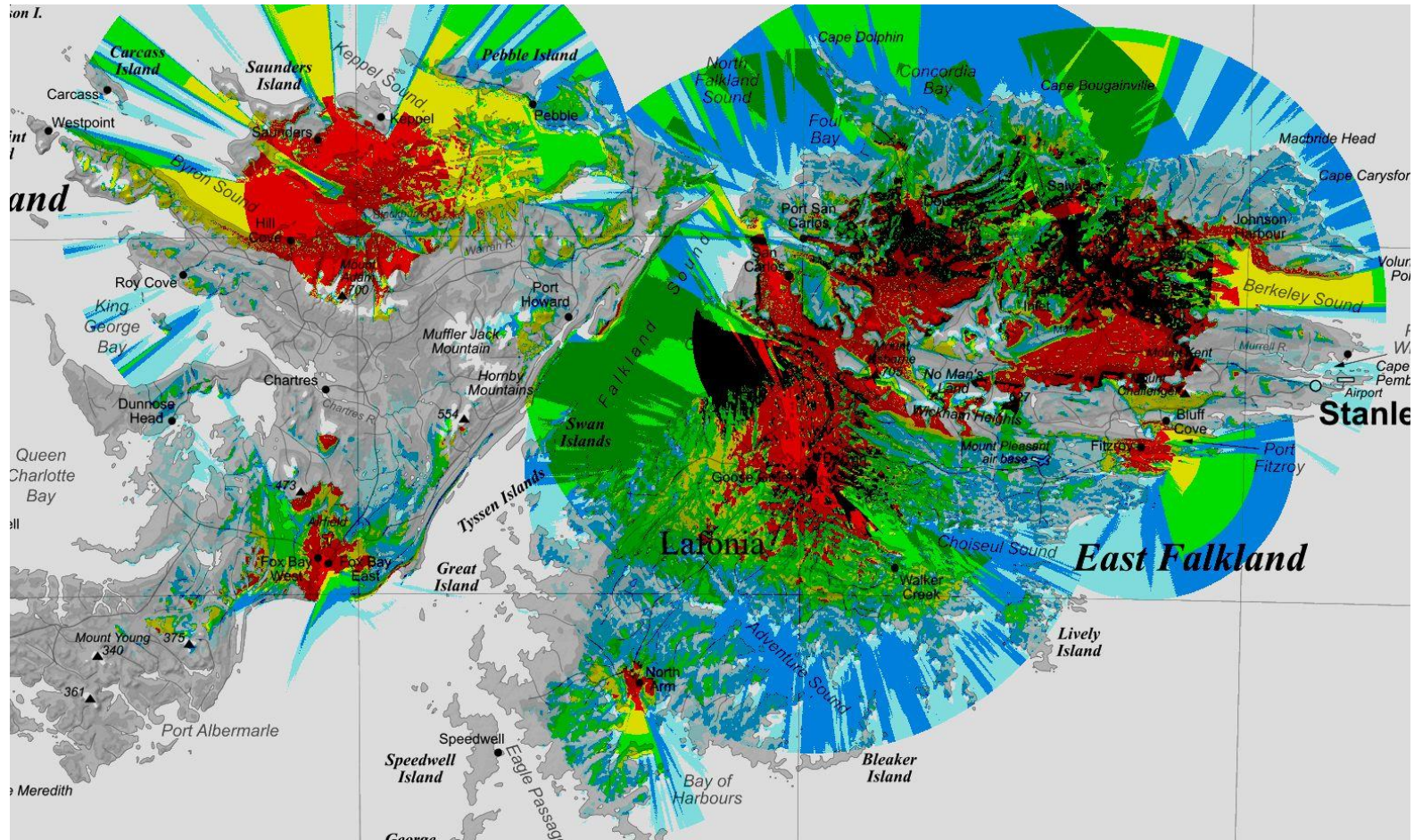
- Foxbay
- Channel Hill
- Malo
- Sussex Mountains
- Mount Pleasant (upgrade)



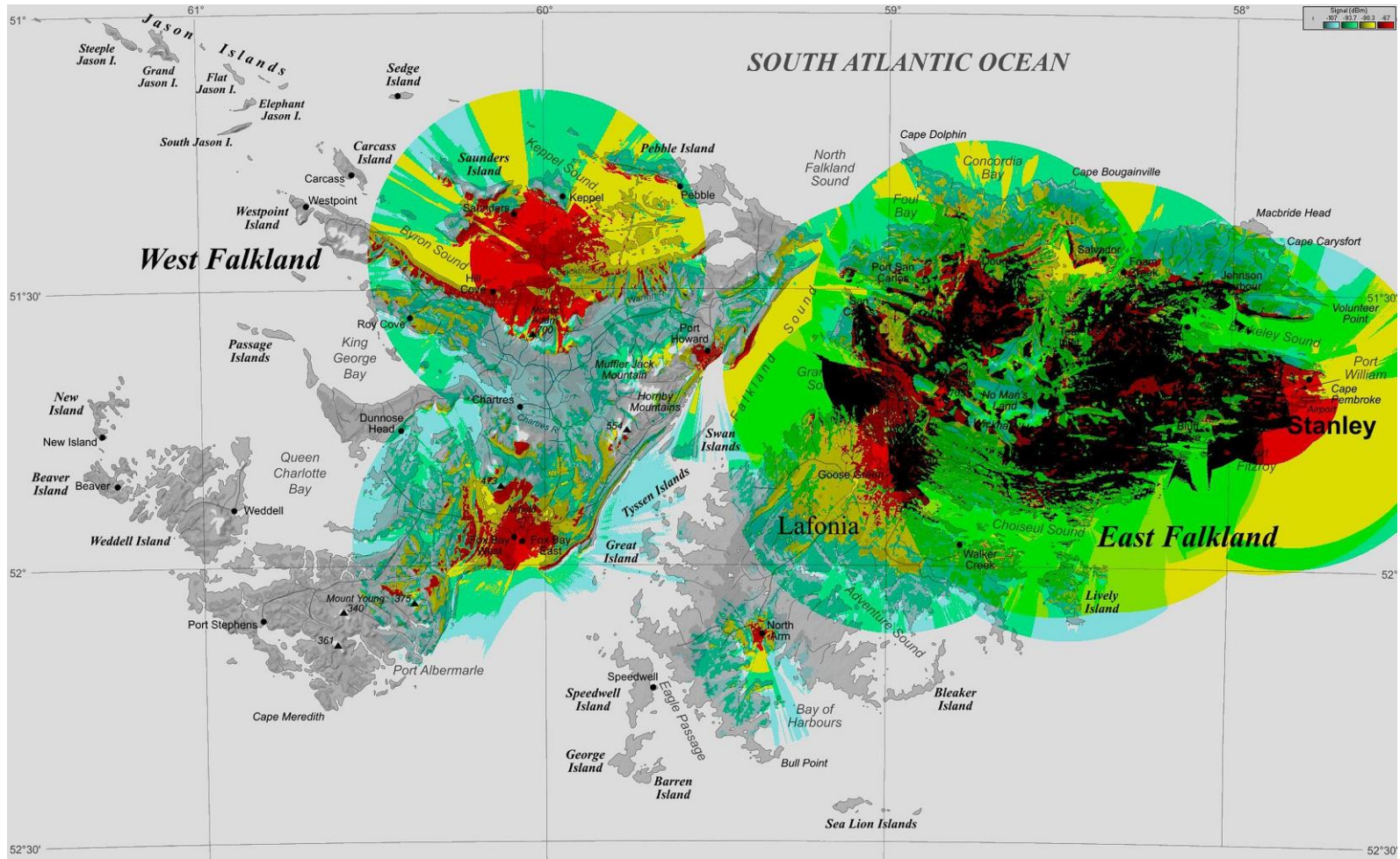
Existing 4G coverage



New 4G Coverage (excludes existing 4G)



New total 4G Coverage with extra Sure sites



2021 Projects

- 4G expansion
- WiMAX replacement
- Rural MSAN expansion
- In Country Transmission links
- QoS Probes
- Fixed Line expansion
- Standby Power/Generators
- Vehicles
- Building and infrastructure

Future Activity

- Continue Camp upgrade works
- Capacity review
- Access Network expansion(Stanley)
- Wi-Fi refresh
- Manage network refresh
- Mobile Expansion 2G/4G
- BAU activity

Internet Utilisation



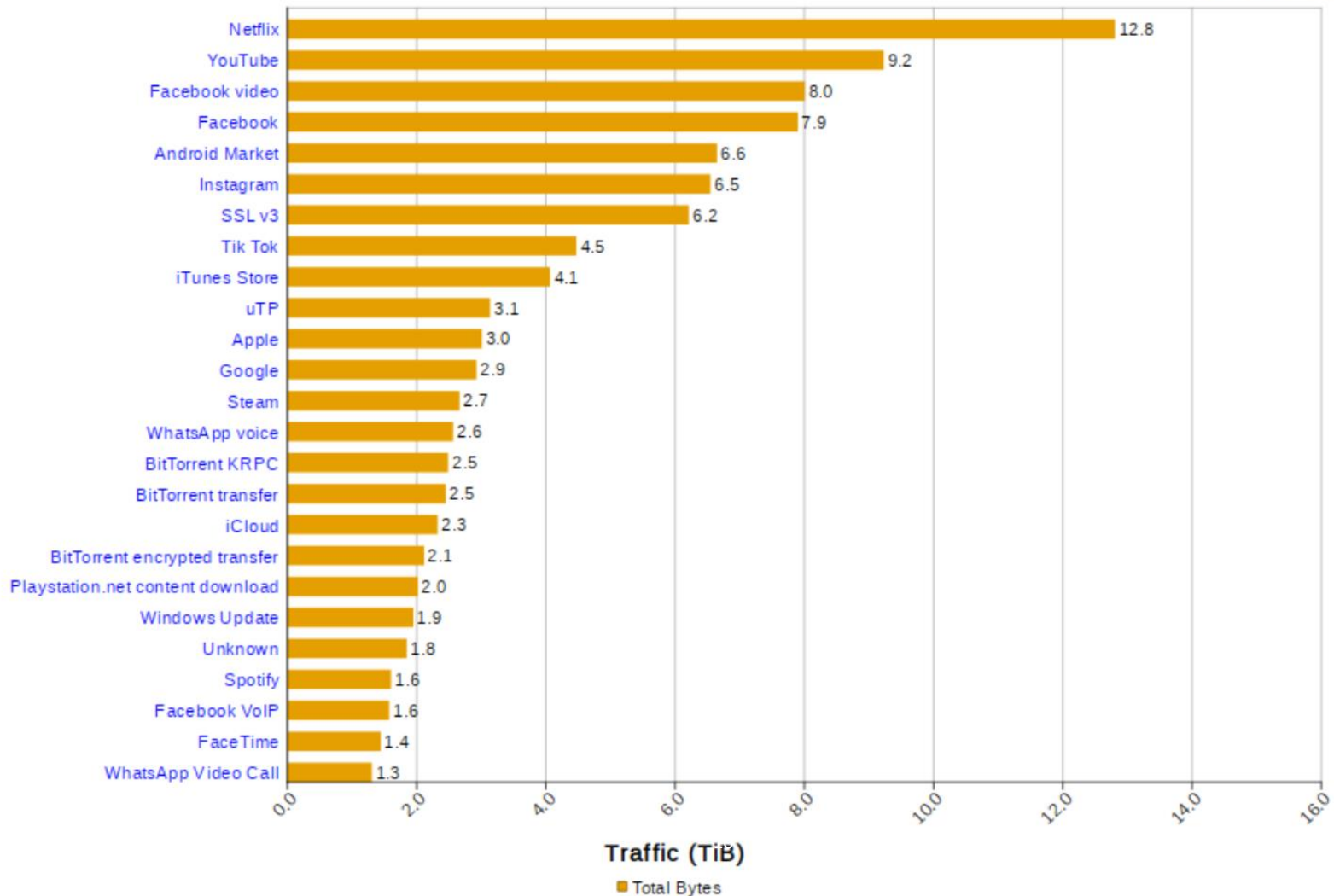
Top Traffic Types – August 2021

Traffic Statistics – All Services / All Subscribers

Aug 2021

Service

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(1152/1152 items)



Questions?

Technology Development Group

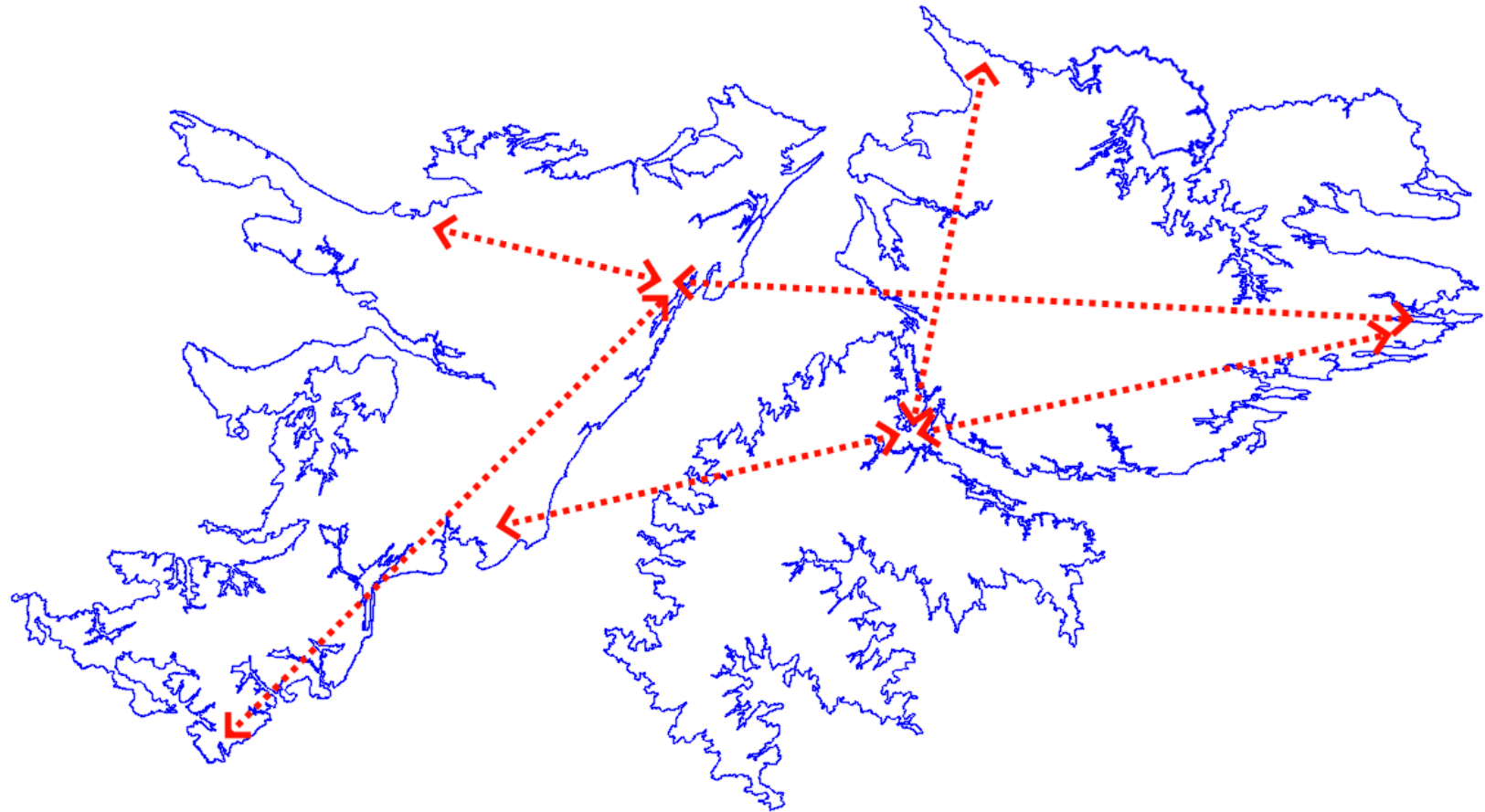
Synergy Information Systems Ltd

Presentation - 17 September 2021

Falkland Islands Broadband Services

- National Broadband: All network traffic that begins and ends in the Falkland Islands between two physically separate infrastructures. This traffic will never use the satellite link.
- International Broadband: All network traffic that begins or ends outside of the Falkland Islands. This traffic will use the satellite link.

National Broadband / On-Island Traffic



Why do we need to care about National Broadband

- Multi-site business connectivity
- Off-site backups (with fast recovery options)
- Remote access to on-premise systems
- Remote users (Business Continuity Plan)

ADSL - Asymmetric Digital Subscriber Line

- Faster down speeds, slower up speeds – tailored to the home user or businesses that do not use on-premise servers.
- Currently cheapest option when Internet is required, or line-of-sight is not available for wireless bridging.
- Maximum speeds currently advertised by ISP: 7Mbps down/768Kbps up.

SHDSL - Single-pair high-speed digital subscriber

- Symmetrical down and up, upload and download speeds are identical, currently available as 2Mbps or 4Mbps.
- The larger upload speed benefits businesses with on-premise infrastructure that require remote access.
- Limitation on advertised maximum download speed of 4Mbps makes ADSL more appetising to end-users.

VDSL - Very high speed digital subscriber line

- This is a new service potentially being offered by Sure. Synergy have not dealt with this service yet, all information below is from Wikipedia.
- VDSL could potentially provide speeds up to 52Mbps down/16Mbps up.
- The later VDSL2 iteration could potentially provide 300Mbps down/100Mbps up.

Fibre Optic

- Very versatile. The cable that was used to transmit 100Mbps is now transmitting 10Gbps (10,000Mbps).
- Distance is limited to approx. 40KM, depending on terminations and equipment.
- Specialist installation required. Sure are the only local company available to install.
- Can be expensive. Not cost-effective for everyone.

Wireless Bridging

- PtP (Point to point) and PtMP (Point to multi-point) connections.
- Advertised speeds up to 450Mbps. Speed can drop significantly depending on distance.
- Requires line of sight and limited by distance.
- Very cost effective. One-off payment for installation and configuration.

Wandering/Field-User Connectivity (Mobile Data)

- Scenario: Bill is in the field collecting data on Rockhopper Penguins; taking pictures, recording HD video and entering findings into a spreadsheet. The data needs to be sent to Stanley ASAP.

How does Bill get 4GB of data back to the Stanley Office Server?

- 4G appears to be limited to 4Mbps down/1Mbps up.
- Current maximum data plan is 3GB quota.

What improvements do we need on the National Broadband service?

- Increased bandwidth on DSL options.
- Cost effective options.
- Standardised and advertised options.

International Broadband Services (THE INTERNET)

- Cloud services (SaaS, PaaS, IaaS e.g., O365, Teams, Azure, eBanking)
- Inter-business communications (FIC/FIH (UK), CHA/CMM (Ascension), FIG/FIGO (UK), remote workers (Global))
- Business Teleconferencing (Skype, Teams, FaceTime, others)
- Social & Recreation (Social Media, Streaming Services, Video Chat, Gaming)

SaaS, PaaS, IaaS explained

- SaaS, PaaS, and IaaS are simply three ways to describe how you can use the cloud for your business.
- IaaS (Infrastructure as a Service): cloud-based services, pay-as-you-go for services such as storage, networking, and virtualization. (Azure, AWS, Magento)
- PaaS (Platform as a Service): hardware and software tools available over the internet. (Azure, AWS, Google)
- SaaS (Software as a Service): software that's available via a third-party over the internet. (O365, Google Workspace, Dropbox)
- On-premise: software that's installed in the same building as your business.

What improvements do we need on the Internet service?

- Increased bandwidth on DSL options.
- Cost effective options.
- Reduced latency to approx. 40ms. Currently approx. 600ms.
- Unlimited quotas.