# TECHNOLOGY CONSULTING IN THE GLOBAL COMMUNITY

Final Consulting Report Banking Commission Republic of the Marshall Islands Jibby Ayo-Ani & Matias Quintana August 2016

# **Carnegie Mellon University**



# **Republic of the Marshall Islands**

# **Banking Commission Executive Summary**

Student Consultants, Jibby Ayo-Ani and Matias Quintana Development Partner, Sultan Korean

# I. About the Organization

The Republic of the Marshall Island Banking Commission is the lead agency for Anti-Money Laundering/Countering Financing of Terrorism (AML/CFT) in the Republic of the Marshall Islands (RMI) on Majuro Atoll. The Banking Commission has the powers of a financial intelligence unit (FIU), as a law enforcer over licensed banks, and as an AML/CFT supervisor of banks, financial institutions, and cash dealers. The mission of the Banking Commission is as such:

To regulate the financial system for safety soundness and to deter money laundering and terrorist financing and secure access to the global financial system.

They currently receive financial information, Cash Transaction Reports (CTRs), Suspicious Activity Reports (SARs), and Regulatory Return Reports, from financial entities, including two banks, Bank of Guam (BOG) and Bank of Marshall Islands (BOMI). The problem with the current document submission process is that they are turned in by paper, so reporting entities must walk or drive over the documents to the Banking Commission daily. The information from the reports are then entered by hand into a single Microsoft Excel spreadsheet. The Banking Commission also has a relationship with enforcement to inform them about suspicious activity.

# **II. Improve Data Collection and Analysis**

The current data collection process can be tedious and takes time away from the analysis of anti-money laundering and countering financing of terrorism. We created a process for reporting entities to submit CTRs and SARs to the Banking Commission (BC) electronically and then store the data in a database. This will allow a smoother process for the reporting entities to submit their documentation and for the BC to more regularly analyze the data for suspicious activity.

We have used an encrypted email, which the banks will securely send the CTRs and SARs to the BC. Then, the BC can upload the reports to the Microsoft Access database that we set up. The BC staff will be able to perform queries to the database, perform financial intelligence analysis on the data submitted, and additionally generate and send reports to law enforcement, in a concise and electronically secured fashion.

It is recommended that the BC Staff continue to utilize Microsoft Office 2007 and Windows 7 as migration with a program update may cause interference in the process. It is also recommended for the BC to hire more hands, as there are now 15 years of backlogged paper documentation that needs to be manually inputted into the database for the full scale analysis to yield true irregularities.

# III. Inform the Public About the Banking Commission and AML/CFT

The transfer of information such as new regulations or news that the BC would like to share with the public is currently shared by word of mouth. A website would allow for communication to other financial entities and cash dealers that otherwise has not been present in the past. The website would provide information about new regulations, rules, and different news that should be shared with external parties and the general public.

We have created a Wordpress account to utilize as a Content Management Tool and a Bluehost account to create a website with the domain name www.rmibankingcomm.org. To ensure that the site is sustained, the BC must keep the website up-to-date and pay for the Wordpress account on a yearly (after the first 3 year payment) basis. The biggest risk is the website becoming outdated so the BC staff must regularly update the website to include new information and regulations.

We recommend the new IT person hired upkeep of the website, and ensuring that all payments are met. Additionally, to make sure the website is seen by reporting entities sending them an email of the new website and printing the website address on future business cards would allow for a more widespread knowledge of its existence.

# IV. Improve Security and Reliability of Banking Commission Email Communication

The email servers that the BC uses do not require secure message transmission (i.e. TLS) therefore email messages can be intercepted and the confidential information disclosed. Organizational email addresses will help the BC have better control about information being shared.

A Bluehost email account was created, linked to the domain purchased for the informational website. To provide further security measures, such as encryption, the email was linked with a local application of Microsoft Outlook. The bank will use the admin email account to submit encrypted CSV files. This email should be the primary email used by the BC to ensure the security of sensitive information exchanged within the office and externally.

#### **Development Partner**

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RMI Banking Commission http://www.rmibankingcomm.org

#### RMI Banking Commission

Jibby Ayo-Ani, Matias Quintana, Student Consultants

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# Republic of the Marshall Islands Final Consulting Report

Student Consultants, Jibby Ayo-Ani and Matias Quintana Development Partner, Sultan Korean

# I. About the Organization

## Organization

The Republic of the Marshall Island Banking Commission is the lead agency for Anti-Money Laundering/Countering Financing of Terrorism (AML/CFT) in the Republic of the Marshall Islands (RMI) on Majuro Atoll. The Banking Commission reports to the Minister of Finance, the Honorable Brenson Wase, and has the powers of a financial intelligence unit (FIU), as a law enforcer over licensed banks, and as an AML/CFT supervisor of banks, financial institutions, and cash dealers. The definition of a cash dealer, taken from the Marshall Islands Revised Code Banking Act of 1987 is:

*"(i) a person who carries on business as an insurer, an insurance broker or intermediary, a securities dealer or futures broker;* 

(ii) a person who carries on a business of dealing in bullion, of issuing, selling or redeeming travelers' checks, money orders or similar instruments, or of collecting, holding and delivering cash as part of a business of providing payroll services;

(iii) an operator of a gambling house, casino or lottery;

(iv) a person carrying on the business of currency dealer or exchanger."<sup>1</sup>

The mission of the Banking Commission is as such,

To regulate the financial system for safety soundness and to deter money laundering and terrorist financing and secure access to the global financial system.

They currently receive financial information, Cash Transaction Reports (CTRs), Suspicious Activity Reports (SARs), and Regulatory Return Reports, from two financial entities, specifically two banks, Bank of Guam (BOG) and Bank of Marshall Islands (BOMI).

Currently, there are only two entities submitting CTRs and SARs to the Banking Commission. CTRs are turned in everyday but SARs are less frequent, with 200 being turned in 2015. New leadership in the Banking Commission has made it a priority to improve AML/CFT regulatory reporting by the banks. With enhanced compliance enforcement, the number of SARs are expected to increase significantly.

New legislation is now being worked on by an Anti-Money Laundering Risk Management Consultant to decree a more solidified enforcing protocol. A new addition will be a Currency

<sup>&</sup>lt;sup>1</sup> Taken from the Banking Act 1987,

http://rmicourts.org/doc/pdf/MIRC\_2014/VOL\_1/TITLE%2017/Ch.%201%20-%20Banking%20Act%201987.pdf

RMI Banking Commission

Declaration Report, that will require Customs to file whenever cash over \$10,000 is brought into or leaves the RMI.

The problem with the current document submission process is that they are turned in by paper, so reporting entities must walk or drive over the documents to the Banking Commission daily. The information from the reports are then entered by hand into a single Microsoft Excel spreadsheet. The spreadsheet is shared within the Banking Commission via personal email, which could pose a threat to the security and confidentiality of the information.

Not only does the Banking Commission have a relationship with banks, financial institutions, and cash dealers but also law enforcement. The information provided by the banks is utilized in two ways.

- 1. To regularly collect and analyze enough information for the Banking Commission to notice irregularities and then volunteer information about that suspicious activity to law enforcement.
- 2. To respond to law enforcement requests by providing information and analysis to support their investigations.

Therefore the Banking Commission needs the capability to:

- 1. Collect and archive information
- 2. Regularly analyze the information for suspicious activity
- 3. Conduct analyses requested by law enforcement
- 4. Generate reports from their analysis

The organization currently has five team members. Sultan Korean, the Bank Commissioner; Rendy Johnny, the Financial System Supervision Division (FSSD) Manager; Matthew McGuire, the Financial Crime Consultant; Samelda Leon, the Commissioner Office Supervisor and Domestic Financial Intelligence Unit (DFIU) Analyst; and Matt Muller, the IT Technician for the office.

## **Facilities**

The Banking Commission has an office on Majuro Atoll, capital of RMI, and is located on the second floor of a former apartment building. They use four units. Each unit has two or three small office-sized rooms, a bathroom, and a small kitchen with enough space for a large table. All of them have adequate lighting, and air conditioning to keep the climate controlled, and enough power outlets. The offices are divided as follows:

- Banking Commissioner office
- Assistant Commissioner and Financial System Supervision Division Manager office. This office also contains the networked office printer and WiFi access point
- Administration and Finance office. This is where most of the meetings with banks and financial institutions are held, and where external consultants work during they stay. It also has a second WiFi access point.
- Domestic Financial Intelligence Unit and Office Supervisor office.

In terms of security, all apartment units doors are locked as well as the front door every night at 6 p.m. However, there is no secure system (i.e. video surveillance, alarms) for after hours, but an

on-site person outside the apartment building guarding it. The Banking Commission staff are the only people with the keys.

## **Regulatory Responsibilities**

The Banking Commission gathers the reports sent by the banks, financial institutions, and cash dealers, analyzes these reports for possible activities related to money laundering, financial terrorism, and off-site surveillance. The reports are as follows:

Cash Transaction Reports (CTRs)

The CTRs record all cash deposits and withdrawals of \$10,000 or more from banks and are utilized during macro-analysis by any requesting government officials. The report has total amount of money in and out, the date, who made the transaction, and the bank it came through. Law enforcement officials may request from the Banking Commission any information, based on the reports received, when an investigation is being conducted on people of interest who are suspected of money laundering or financial terrorism.

Suspicious Activity Reports (SARs)

SARs are generated when any sort of suspicious financial activity such as a series of large transactions or financial transactions that do not make sense for the individual or organization. The key elements of the report include the suspect's personal information, the amount of money transacted, the bank it went through, the summary of the type of suspicious activity, and the resulting actions against the suspect.

Regulatory Return Reports

Regulatory Return Reports are monthly reports on the financial condition and performance of the entities. It allows for the Banking Commission to aggregate data for the purpose of assessing the performance of the economic industry as a whole.

Currently the Banking Commission receives around 3,000 CTRs, 200 SRAs, and 80 Regulatory Return Reports on an annual basis from the two banks. Currently, the AML and Bank Secrecy Act Compliance (BSA) Supervisor from BOMI and the Operations Officer from BOG print out the reports and then walk or drive them to the Banking Commission's office. They are signed off by the Banking Commission office then the information from the reports are entered into a Microsoft Excel spreadsheet. One spreadsheet consists of information from CTRs and SARs (screenshot below), and another spreadsheet with Regulatory Return Reports information.

These spreadsheets are managed by Samelda Leon and Rendy Johnny, respectively. As a result, whenever Sultan Korean requires up-to-date information, Samelda Leon and Rendy Johnny have to email their current file. The original paper documents are then stored in file cabinets located in the DFIU office.

The entire process of managing the financial information is cumbersome. As mentioned before, the duty of manually recording the paper reports and performing the intelligence analysis is solely done by Samelda Leon and Rendy Johnny. As a result, a considerable amount of time is being invested in the manual process of retyping the information needed and not enough time for detailed intelligence

analysis. The Banking Commission would prefer to spend less time doing data entry and dedicate more time to intelligence analysis.

CTR spreadsheet used in the Banking Commission

A	B	C	D	E	F	G	Н	-1	J	K
1 BANK	Ins.#	BC #	Conducted For	Conducted by T	rans.Date	Cash in	Cash out	Date of reciept	Rec. by	
2 JANUARY										
3 BOMI	01-16-001	01-16-001			1/4/2016	\$29,460.00		1/14/2016	rj	
4 BOMI	01-16-002	01-16-002			1/4/2016		\$12,200.00	1/14/2016	rj	
5 BOGM	05-16-0001	01-16-003			1/4/2016	\$11,606.00		1/18/2016	snl	
6 BOGM	05-16-0002	01-16-004			1/4/2016	\$74,200.00		1/18/2016	snl	
7 BOGM	05-16-0003	01-16-005			1/4/2016		\$180,000.00	1/18/2016	snl	
8 BOGM	05-16-0004	01-16-006			1/4/2016	\$13,040.00		1/18/2016	snl	
9 BOGM	05-16-0005	01-16-007			1/4/2016	\$13,848.00		1/18/2016	snl	
10 BOGM	05-16-0006	01-16-008			1/4/2016	\$16,919.00		1/18/2016	snl	
11 BOGM	05-16-0007	01-16-009			1/4/2016	\$39,343.00		1/18/2016	snl	
12 BOGM	05-16-0008	01-16-010			1/4/2016	\$46,682.00		1/18/2016	snl	
13 BOMI	01-16-003	01-16-011			1/5/2016	\$12,000.00		1/14/2016	rj	
14 BOMI	01-16-004	01-16-012			1/5/2016	\$25,000.00		1/14/2016	rj	
15 BOMI	01-16-005	01-16-013			1/5/2016	\$61,300.00		1/14/2016	rj	
16 BOMI	01-16-006	01-16-014			1/5/2016	\$19,996.15		1/14/2016	rj	
17 BOMI	01-16-007	01-16-015			1/5/2016	\$16,200.00		1/14/2016	rj	
18 BOMI	01-16-008	01-16-016			1/5/2016	\$14,303.27		1/14/2016	rj	
19 BOMI	01-16-009	01-16-017			1/5/2016	\$11,980.39		1/14/2016	rj	
20 BOMI	01-16-010	01-16-018			1/5/2016		\$10,000.00	1/14/2016	rj	
21 BOMI	01-16-011	01-16-019			1/5/2016		\$20,000.00	1/14/2016	rj	
22 BOGM	05-16-0009	01-16-020			1/5/2016	\$15,069.00		1/18/2016	snl	
BOGM	05-16-0010	01-16-021			1/5/2016	\$13,637.00		1/18/2016	snl	
4 BOGM	05-16-0011	01-16-022			1/5/2016	\$11,285.00		1/18/2016	snl	
25 BOGM	05-16-0012	01-16-023			1/5/2016	\$12,407.00	\$25,000.00	1/18/2016	snl	
26 BOGM	05-16-0013	01-16-024			1/5/2016	\$14,000.00		1/18/2016	snl	
27 BOGM	05-16-0014	01-16-025			1/5/2016	\$20,100.00		1/18/2016	snl	
BOMI	01-16-012	01-16-026			1/6/2016	\$22,000.00		1/14/2016	rj	
BOMI	01-16-013	01-16-027			1/6/2016	\$20,800.00		1/14/2016	rj	
BOMI	01-16-014	01-16-028			1/6/2016		\$12,500.00	1/14/2016	rj	
< >	CTR SAR (	÷)			: •					

SAR spreadsheet used in the Banking Commission

A	В	С	D		E	F		G		Н		1
1 Sequence No.	Suspect Name (1)	Suspect Name (2)	Suspect Address		SSN, PN< EIN, DL, TIN	Suspect DOB	Suspect Occ	upation		Amount		Institution
2 05-16-001						10/22/1971	L Technician				\$4,415.00	BOGM
3 05-16-002							Retail Store			\$1	17,000.00	BOGM
4 05-16-003						10/14/1964	Retail/ Gas Stati	on Manager		\$.	21,250.00	BOGM
5												
<i>c</i>												
🖌 J	K				М		N	0	Р	Q	R	S
1 Acct Affected (1)	Acct Affected (2)	Date of Sus	spicoius	Summary Cha	aracteristic of Suspicious A	ctivity Result						
2			3/1/2016	ACH- Tax Fraud.		BOG to Contin	nue Monitoring Ad	count				
3			1/12/2016	Multiple Transact	ion Below BSA Recordkeeping Thre	shold BOG to Contin	nue Monitoring Ad	count				
4			4/1/2016	Check Kiting		BOG to Contin	nue Monitoring Ad	count, No re	lations	hip between [	OTK Gas St	ation and Mrs.
5	(MI)											

## Staff

The Banking Commission has four personnel.

- Sultan Korean is the Banking Commissioner. He manages the office and is the liaison with national and international financial entities. Additionally, as he builds the Banking Commission staff, he is directly involved in DFIU and FSSD intelligence analysis. Currently he uses a desktop computer for sending and receiving emails as well as Microsoft Excel for analysis and monitoring.
- Rendy Johnny is the FSSD Manager. He has a banking and accounting background and is in charge of monitoring banks' financial data. Currently he receives Regulatory Return Reports on a monthly basis in paper form and manually enters and tracks them in a Microsoft Excel

spreadsheet. Similar to Sultan Korean, he mainly uses his computer for email communication and using Microsoft Office.

- Samelda Leon is the DFIU Analyst. She receives CTRs and SARs in paper form and updates a spreadsheet with the new information. She later analyzes them and informs Sultan Korean about any person of interest.
- Matt Muller is the recently hired IT Technician for the office. He will be in charge of all IT related tasks for the Banking Commission as well as the database, website, and email maintenance.

Additionally, a United Nations Financial Crime Consultant, Matthew McGuire consults remotely and visits periodically. Matthew McGuire is helping the Banking Commission to redesign and rewrite the banking legislation, as well as advise them regarding AML/CFT. He uses his Lenovo Thinkpad connected to an external monitor.

## **Technology Infrastructure**

#### Hardware and Software:

In the current situation, the specific technologies are described below in the table, although there are regular power outages that make the development partners vulnerable to situations such as losing data and ability to carry out the tasks for the day.

User	Hardware Equipment Specifications	Software Specifications
Sultan Korean Rendy Johnny Samelda Leon	Desktop Computer (one for each employee): - Model: HP ProDesk 405 G2 MT - CPU: AMD A4 6250, 2.00 GHz - RAM: 8.00 GB	<ul> <li>Windows 7 Professional Edition Service Pack 1, 64 Bits</li> <li>Microsoft Office 2007</li> <li>Internet Explorer for browsing</li> </ul>
Matt Muller	<ul> <li>Desktop Computer</li> <li>Model: Dell Inspiron 3847</li> <li>CPU: Intel Core i7 4790, 3.60 GHz</li> <li>RAM: 16.0 GB</li> </ul>	<ul> <li>Windows 7 Professional Edition Service Pack 1, 64 Bits</li> <li>Microsoft Office 2007</li> <li>Mozilla Firefox for browsing</li> </ul>
Matthew McGuire	<ul> <li>Laptop Computer:</li> <li>Model: Lenovo Thinkpad T460</li> <li>CPU: Intel Core i3-6100, 2.30 GHz</li> <li>RAM: 4.00 GB</li> </ul>	<ul> <li>Windows 10 Home, 64 bits</li> <li>Microsoft Office 2007</li> <li>Google Chrome for email and browser</li> </ul>

Banking Commission	Xerox WorkCentre 6505, Xerox WorkCentre 3215 (Multi-function devices)	
	devices)	

#### Network:

The Banking Commission have two WiFi networks but only one connection from the Internet Service Provider (ISP); there is an opportunity to join them into a single network. Both networks are WPA2 password protected and mostly used by consultants and advisors laptops when they go to the office, as well as other handheld devices. The following diagram describes the current devices attached to the networks, only laptops are connected wirelessly.





#### **Internet Connection:**

There is only one ISP in the country, the National Telecommunications Authority (NTA), who manages the fiber optic connection from Guam to RMI. This allows for moderate speed connection for the basic household internet plan, around 1 and 0.6 Mbps of upload and download speed respectively, making streaming capabilities such as videos or Skype possible. However, in terms of bandwidth at the Banking Commission, the upload and download speed are around 0.10 Mbps. As a result, uploading or downloading large files takes a long time. Additionally, media streaming capabilities are very limited. There is a possibility for upgrading the current internet plan to enhance

the current situation. Lastly, there is a single undersea cable to RMI that limits the bandwidth and has been reported to be sometimes unreliable, leaving the island without redundancy.

## **Technology Management**

There is currently no one responsible for managing the technology infrastructure at the office. Since they only rely on technology for email communication, office applications, and wireless printing, they did not required someone on staff to be responsible for it. Each staff member is responsible of updating their software and antivirus as needed. However, whenever they have a technology issue the RMI government has some IT staff that they can call for help. The Banking Commission has had IT problems in the past that has resulted in almost all historical data being lost. As mentioned before, a job position for an IT technician for the office is currently open.

## **Technology Planning**

Sultan Korean does all the planning and budgeting including technology. His current vision is to use technology to minimize the amount of time and work required to archive and analyze all incoming reports from the financial entities and cash dealers. As a result, the FSSD and DFIU will become more efficient in their roles of monitoring and investigating. Additionally, Sultan Korean hopes that technology will provide visual tools to facilitate their day to day operations. A few FIUs in the region (Micronesia) collect electronic reports and store them in a database. He wants to similarly reduce the amount of paperwork in the office, as well as make information storage and analysis more efficient. Sultan is submitting a budget that will include expenditures for technology by the end of June so it would be ideal for him to have an idea of potential costs by then.

## Communication

Currently, computers are being used mainly for communication purposes, such as email, and report analysis in Microsoft Excel. Information is shared internally through word-of-mouth, email, and externally via phone communication.

The paper reports from the financial entities are received by either Rendy Johnny or Samelda Leon, who records the information in Microsoft Excel spreadsheets. The spreadsheets are shared via email.

Each staff member has a personal gmail and ntamar email account that they use for communication. The latter is hosted by the NTA. The Banking Commission does not have a website nor domain for organizational emails.

As mentioned previously, the current method that the reporting documents are submitted is through pdfs that are filled out online then printed and walked over to the Banking Commission. This method is very inefficient because the bank workers have to take time out of their days to walk all the documents over, once a day, and then the Banking Commission must work to input this information into the computer by hand. This is a repeated action that has to be done everyday for as many documents that are turned in that day. This can lead to having too many errors, where possible inaccurate information being inputted or inconsistencies in titles, names, etc.

#### **Business Systems**

The Banking Commission reports to the Ministry of Finance and is part of the government. As a result, all business processes such as accounting and hiring go through them. The Banking Commissioner, Sultan Korean, will fill out the necessary paperwork and send it to its proper destination. They are currently in the process of establishing their Operational Statement and Budget for next year, which must be approved by the Minister of Finance, Honorable Brenson Wase.

The Banking Commission must also comply with international standards defined in the Financial Action Task Force 40 recommendations. These deal with the necessity to collect, analyze and disseminate information, and those that deal with international cooperation.

## II. Improve Data Collection and Analysis

#### Motivation

The current way the Banking Commission collects data and conducts analysis is time intensive and leaves little room to ultimately catch and deter money launderers. The reports submitted to the Banking Commission are often inconclusive until a person's or organization's behavior is examined holistically to notice irregularities. To be able to look at the data as a whole, it would be most reasonable to have the information inputted into a database that then allows for a comprehensive analysis.

As mentioned before, with the current system, there are regular power outages and since there are desktops being used, data can be lost if changes have not been saved to documents being worked on. For that reason, we recommend a countermeasure for this sort of situation such as Uninterrupted Power Supply (UPS) or switch from desktops to laptops.

A further opportunity would be to visualize the data in a highly customizable data visualization software to automate, expedite, and increase precision in the current manual analytical process. Previously information is just kept in a Microsoft Excel Spreadsheet and analysis has just been inferred from the human eye. Larger trends from the information can be missed and a data visualization application or system from an already set up database would minimize the chance of data clean up and formatting issues.

#### Outcomes

#### 1. Designed and Implemented Access database

After discussions and interviews with employees at the Banking Commission, the functional requirements were documented (see **Appendix A**). Additionally, three different options were evaluated (see **Appendix B**) and finally the first option "File Upload with Local Application" was recommended. This means that financial entities will send encrypted emails with their CTRs and SARs reports to the Banking Commission following the specified format (see **Appendix C**), and then the staff will upload those files to a local database.

For the locally hosted database, it was decided to use Microsoft Access. In terms of cost, the Banking Commission already had Microsoft Office Suite 2007 (with MS Access) installed on each computer in the office. The main decision factor was sustainability. Local existing technology solutions and technological skill on the island make this viable, as well as scheduled training for the recently hired IT Technician.

The database application contains 3 tables (see **Appendix D**):

- CTRs Stores information about Cash Transaction Reports
- PersonInTransaction Stores individual information about each person involved to a given CTR
- SARs Stores information about Suspicious Transaction Reports

The database application contains the following forms (see **Appendix E**):

- MainForm
- CTRs
- SARs

The database application contains the following reports:

- CTRs by Person A list of all people associated with a CTR, order by their identification number
- CTRs by Month CTRs broken down by month with the sums for each month
- CTRs by Year CTRs broken down by year with sums for each year
- SARs by Person A list of all people associated with a SAR, order by their identification number
- SARs by Month SARs broken down by month with the sums for each month
- SARs by Year SARs broken down by year with sums for each year
- Crime Classification (SAR) SARs broken down by summary characteristic with sums for each classification

And one plot of amount of CTRs by Financial Entity, grouped by month.

An original prototype of the database with all three tables (CTRs, PersonInTransaction, and SARs), related forms, queries, and reports. The prototype was presented to Rendy Johnny and Samelda Leon. They were able to test the reports, input data through the appropriate forms, and perform some queries. Through this testing, small bugs were detected and recommendations from the end users were captured. This was crucial for tweaking the design of the system as well as it allowed the employees to gain familiarity with the application.

During the development stage, the IT Technician Matt Muller was involved in the process in order to learn about the system. Test queries and reports were also performed by him in order to gain more familiarity with adding modifications to the system.

#### 2. Documented and Set Up Electronic Reporting Process

As previously mentioned in **Appendix B**, financial entities will begin sending electronic reports via encrypted email to the administration email of the Banking Commission office. To gain a better understanding of the current reporting process of CTRs and SARs, meetings were held between the consultants and the IT team from Bank of Marshall Islands and Bank of Guam, as well as the AML Compliance teams from each bank. Because the paper forms will not be used anymore, it will be possible to get more data than just the required by the physical documents. However, a common ground of data fields needed to be set for both banks, and for future financial entities (see **Appendix C**).

During the final week of the project, banks are still finishing the last details of their electronic reports and have been sending test files. These files were uploaded to the database by Matt Muller and feedback was provided for both Bank of Marshall Islands and Bank of Guam. However, there is still the risk that the consultant will not be on island when the banks eventually submit their reports electronically. In addition, the banks do not yet have a timeline for when they will start the electronic submission, although it is expected to be in the next few weeks. In the meantime, backlog reports, as well as incoming paper form reports, will be inputted into the database manually. While this is tedious, it is a short-term solution until the banks submit their reports in the correct format. The Banking Commission is aware that this method cannot be sustained as a long-term solution as it creates more work for the employees. Nevertheless, once the reports are submitted in the correct electronic format, the amount of time inputting and sorting the data will decrease dramatically; this will leave more time for analysis and investigation. Finally, it is important for all previous reports (backlog) to exist in the database in order to provide a more thorough investigation.

#### 3. Deployed Access database

In order to enable multiple users concurrently in the system, the database needed to be split into front-end copies and one back-end copy (see **Appendix F**). The back-end copy resides in Matt Muller's computer and front-end copies were distributed to each employee's computer. Using a Windows Homegroup, that was set up under the Banking Commission's network (see **Appendix G**), each user's front-end copy file was linked to the back-end database file (see **Appendix H**). In addition, this procedure helps to avoid the 2GB database file size limits of Microsoft Access (see **Appendix I**). Additionally, in order to increase the security of the system, both the back-end database file and the front-end files were encrypted using a unique password (see **Appendix J**).

After the final version of the database went live, Rendy Johnny and Samelda Leon had one week to manually enter data from previous reports and test the system. Rendy Johnny ran the reports as a test of what real-data will generate and was able to export them into excel spreadsheet for further analysis if needed. The ability of auto-completion in the text boxes, based on information already stored in the database, allowed Samelda Leon to input two complete reports in less than ten minutes. The banks were able to start sending test files with real CTR information, Samelda Leon and Matt Muller were able to upload the files (see **Appendix K**)and query the new data.

Backup procedures were discussed with Matt Muller, as well as worst case scenarios with the database. It was determined that he will set up a schedule for backing up the database, as well as received files from the financial entities, either once a week or after one set of reports is submitted.

#### Recommendations

In order for the project to be successful, and use the database in the most efficient way, it is crucial that the current banks and future financial entities properly reformat their reports to meet the guidelines necessary for automatic upload into the database. Since the banks are still in the process of testing their electronic reports, it is important to work side by side with them providing feedback and making sure their test files work as expected. While the solution of manually inputting all incoming reports is adequate for short-term, if it is used indefinitely, it diminishes the usefulness and efficiency of the new database. In order to accelerate the time of introducing old reports into the database, the Banking Commission could hire personnel, or have an intern, on an hourly wage to perform this task.

For future projects, there are many opportunities for growing and expanding the database. Additional visualization tools can be implemented within the database and Case Management Tools can be used with the database as a source. These projects could focus more in exploring and analyzing the data to further assist the office meet its goals. Additionally, reports that the FSSD receives, such as Regulatory Return Reports, can also be formatted into CSV files and be incorporated to the database in order to make all reports digital.

As the Banking Commission becomes more familiar with the database, it is possible they would like more reports and/or queries. The current IT Technician, Matt Muller, is capable of modifying the existing reports, as well as adding any new report they might need. However, additional training in Microsoft Access and databases would strengthen his skills. Finally, there is potential for automatic pattern detection, in order to help the office identify key entities or patterns of suspicious transactions. These projects can be implemented using Data Mining techniques and are feasible for a future TCinGC team or as a remote semester-long project from Carnegie Mellon University.

# III. Inform the Public About the Banking Commission and AML/CFT

#### Motivation

Because there is no public centralized platform for all of the Banking Commission legislation for banks, cash dealers, and financial institutions to be up to date on, a website would be an added opportunity for the Banking Commission. Additionally, a website would help increase general knowledge of the issue of money laundering, and improve visibility of the Banking Commission's activities. Additionally, the website must be easy to maintain and update its content. The following table compares web hosting sites that allow changes to be made easily.

#### Outcomes

In addition to the domain name necessary for the website, it was determined that a website builder would give the BC the ability to sustain the website on their own. To determine what solution

would be the most cost effective, a diagram was created that compared the cost of the domain, hosting, and connecting with email. Wordpress fit the needs of the BC and was the most budget-effective solution. The BC selected an appropriate domain (www.rmibankingcomm.org) which was purchased through Bluehost. The website created on Wordpress contains 5 pages (see **Appendix N**):

- Home: A general landing page that gives a welcome message along with a brief description of the mission and purpose of the BC.
- About: A more detailed description of the BC, its mission, its organization structure, and its history.
- Legislation and Regulations: a list of all the current regulations and updated legislations.
- Contact Us: contains a form to submit a message (sent to administration@rmibankingcomm.org) as well as other contact information for the BC.

These pages contain information about the BC and its purpose in the community. The general public and reporting entities will now have easy access to the BC for any updates on legislation, important updates, and contact information. The BC can now more easily regulate the financial system for safety soundness and to deter money laundering and terrorist financing and secure access to the global financial system in the RMI.

While Wordpress is designed to be used by those who do not know how to program websites, it still requires the user to be familiar with Wordpress and the selected theme. After the website was built, the Banking Commission staff was walked through the most common functions such as updating a page, creating a post, and customizing the theme. However, these actions will most likely not occur frequently. This could become problematic when, in the future, the BC wishes to update or add information to the website, but has not done so recently. To help prevent this from occurring, documentation was created that details information about the site, as well as instructions on completing common tasks. In addition, there are plenty of resources online, such as at <a href="https://en.support.wordpress.com/">https://en.support.wordpress.com/</a>, in case a more advanced feature is desired. Since the resources necessary to complete common and advanced tasks are available to the BC, maintaining the content to the website should be feasible. To ensure the website stays online, the BC simply needs to pay for the hosting plan once a year (starting after the first 3 year payment).

#### Recommendations

In order to continue to maintain the website, the BC needs to ensure they purchase the basic plan of Wordpress on Bluehost once a year. Since at the moment the BC office does not have a credit card, it is important that when they do, the payment method is changed to their new corporate credit card. To maintain the website up-to-date, it is important that all new legislations and regulations are posted under the "Legislation and Regulations" page, as well as any other information update, or

new pages if needed. This will reinforce the role of the website as a reliable source of information regarding the BC.

# IV. Improve Security and Reliability of Banking Commission Email Communication

#### Motivation

As it was mentioned previously in the communication section, employees use different personal email domains. They recognize that this may not be ideal with confidential files being transferred through these emails. If an employee leaves the Banking Commission, confidential information and/or files will remain in its personal inbox creating a potential threat of information disclosure. Additionally, email services that do not use secure message transmission (i.e. TLS), like ntamar, can be intercepted. Finally, having an organizational email will promote the professionalism of the organization.

#### Outcomes

To help facilitate working with other FIUs, in addition to providing a professional means of communication, a Bluehost mail account was created and linked to the domain purchased for the informational website. Bluehost mail was selected because it provides 5 professional emails as part of their free plan, which fits the needs of the BC. To provide further security measures, the email was linked with a local application of Microsoft Outlook. Outlook allows a user to send digital signatures and send/receive encrypted messages. Outlook was set up on the desktop computers and laptops of all the BC employees. To assist the BC with setting up Outlook to allow encrypted messages to be sent for future employees, documentation was created that details necessary steps to configure Outlook appropriately. There is very little risk associated with sustaining the email. To ensure that Bluehost will continue to host the domain, it is important that the BC reads any emails sent by them about potential changes in pricing or plans. To ensure Outlook remains running, the BC has to ensure it completes any software updates or bug fixes sent out by Microsoft. Checks for these updates can be scheduled to occur automatically or after a set period of time (ex. once a week) under the 'Help' menu.

#### Recommendations

To ensure the use of the new organizational emails, Matt Muller could help the office migrating their address book from their previous email, as well as setting up auto-reply messages indicating the new email address. Additionally, contact information should be updated (i.e. business cards) in order to promote the new online presence of the BC (email and website).

# **V. Additional Recommendations**

## **Banking Commission Understaffed Situation**

The consultants recommend that the BC keeps prioritizing the completion of their new organizational chart. Prior, and during, the consultants stay, some meetings were postponed or delayed because the employees had other office tasks to carry on, not necessarily related to their job role. It is important to highlight that hiring the IT Technician while the consultants were in the office helped the capacity building process and training, but it would have been preferable if the person joined earlier.

## **About the Consultants**

Jibby Ayo-Ani is a fourth-year student in Information Systems at Carnegie Mellon University. She has taken part in the Technology Consulting in the Global Community internship over the summer and return in the fall to start a promising career as a software developer at Capital One.

Matias Quintana is a graduate student in the Master of Information Systems Management in the Heinz College at Carnegie Mellon University. He will be returning to Carnegie Mellon University in the fall to finish his program following the Technology Consulting in The Global Community internship over the summer.

# **List of Appendices**

# **Encrypted Email and Local Application**

- Appendix A. Functional Requirements of Solution
- Appendix B. Project Proposal
- Appendix C. CSV File Specifications
- Appendix D. Tables Diagram
- Appendix E. How to use the Forms
- Appendix F. Splitting an Access Database
- Appendix G. Windows Homegroup and Sharing Files
- Appendix H. Linking an Access Database
- Appendix I. 2GB Access Database Size Limits
- Appendix J. Encrypting/Decrypting an Access Database
- Appendix K. Import CSV Files into Access Database

# **Informational Website**

- Appendix L. Website Cost Decision Diagram
- Appendix M. Website Domain Name, Hosting, and Email

# **Professional and Secure Email**

Appendix N. Email Encryption using Outlook or Thunderbird

# Appendix A.

## **Functional Requirements of Solution**

- A system by which the financial entities can electronically file CTRs (Cash Transaction Reports) and SARs (Suspicious Activity Reports)
- Banking Commission staff should be able to access and query information.
  - Search by name (Last Name/Name of Entity)
  - Search by range of dates (start date and/or end date)
  - Search by account number
  - Search by ID (CTR ID or SAR ID)
  - All searches will return tables of the following records
    - All CTRs that match the given search
    - All SARs that match the given search
  - Reports on summaries for the month and by person with subtotals and totals
  - Reports with plots of CTRs volume tendency
- Secure to external attacks since information is highly sensitive
- Field validation, a common problem is inconsistencies on naming entities
- Ability to expand to add more information than just CTRs and SARs as required in the future
- Potential for other reporting institutions to be added in the future
- Ability to delete records
- Ability to input information regarding CTRs and SARs manually for the backlog of physical reports

# Appendix B.

# Project Proposal Introduction

The current way the Banking Commission collects data and conducts analysis is time intensive and leaves little room to ultimately catch and deter money launderers. The reports submitted to the Banking Commission are often inconclusive until a person's or organization's behavior is examined holistically to notice irregularities. To be able to look at the data as a whole, it would be most reasonable to have the information inputted into a database that then allows for a comprehensive analysis.

As mentioned before, with the current system, there are regular power outages and since there are desktops being used, data can be lost if changes have not been saved to documents being worked on. For that reason, we recommend a countermeasure for this sort of situation such as Uninterrupted Power Supply (UPS) or switch from desktops to laptops.

A further opportunity would be to visualize the data in a highly customizable data visualization software to automate, expedite, and increase precision in the current manual analytical process. Previously information is just kept in a Microsoft Excel Spreadsheet and analysis has just been inferred from the human eye. Larger trends from the information can be missed and a data visualization application or system from an already set up database would minimize the chance of data clean up and formatting issues.

## Summary

We have explored 3 different options mapped out in the decision matrix below.

- 1. An encrypted email where reporting entities will send their reports and subsequently the Banking Commission will download the reports onto a locally hosted database.
- 2. A cloud hosted application where reporting entities upload reports to hosted application and the Banking Commission also queries and analyzes data on the cloud application.
- 3. A locally hosted application will be stored on a server or computer in the Banking Commission and all report submissions will be accessed through web accessible means.

The matrix below explains the pros and cons of each of the options.



	#1: File Upload w/ Local Application	#2: Cloud Hosted Application	#3: Locally Hosted Application
Cost			
Technology Infrastructure	 (Existing computers and software can be used)	~\$200-\$300/year (For hosting the application and database as cloud services)	~\$300-\$400/year (Hardware + Software Licenses)
SSL (Sending/ Receiving information security)	(Online File Upload Storage provides secure transmission)	\$50-\$100/year (certificate of secured transmission)	\$50-\$100/year (certificate of secured transmission)
Domain Name		~\$12/year (for the online application)	~\$12/year (for the online application)
Security			
Data is transferred secure	Secured upload, store, and download dwith the Online File Upload Storage	Vendor provide means of security	Banking Commission staff should implement security measures for the transmission
Data is kept secure	Data is kept encrypted in local password-protected computer	Data is kept in Vendor's infrastructure. They provide physical and online security	Data is kept in local computer. Banking Commission staff must provide online security for external attacks

Data is kept confidential	Yes, can and should be encrypted	Data is encrypted on vendor's data center. Depending on vendor (i.e. google) data could not be entirely confidential	Yes, can and should be encrypted
Technological Lock-in	No	Depends of the vendor. Can have local backup	No
Maintainability			
Software	Minimal maintenance necessary, stable software. IT technician would be able to handle it	IT technician could be able to handle it, detailed training should be required	IT technician could be able to handle it, detailed training should be required
Hardware	No additional maintenance but the office computers	Maintained by provider	Server's lifespan ~3-5 years
Tier 1 Support	Banking Commission staff could likely learn	IT Technician could maybe learn	IT Technician could maybe learn
Tier 2 Support	Bank of Marshall Islands' staff	Unknown	Unknown
Scalability			
Size	Limitations of chosen Database.	You pay for what you use	Limitations of the server

Usability			
Reporting Documents	Upload flat file with raw data	Upload flat file with raw data or banks manually fill out forms in web UI	Upload flat file with raw data or banks manually fill out forms in web UI
Database Schema can be changed by the BC staff	Yes, with accurate documentation	Possibly yes, some training/expertise will be required	Possibly yes, some training/expertise will be required
Ability to backup, restore, and/or complete reinstallation	Banking Commission staff can perform it	IT Vendor will handle it	Banking Commission staff could perform it, more expertise would be required
Ramification of Internet off-island down	No new incoming reports, staff can continue working normally	System unavailable	No new incoming reports, staff can continue working normally
Data Visualization Tools	Only reports and charts	Yes	Yes
Field Validation	No. Have to be done manually	Yes	Yes
Remote Access	No	Yes	Yes
Possibility to send Law Enforcement Report	Use other tool to encrypt and decrypt it	Secured via application	Secured via application

Support for Multiple Users	Yes. Database can be shared within local network	Yes	Yes
Reasonable Response Time	Yes	Dependent on bandwidth (reasonable but sometimes unreliable)	Yes, for Banking Commission. Dependent on bandwidth (reasonable but sometimes unreliable).

Based on our research, our recommendation is to continue forward with the encrypted email and local database. We have evaluated the other alternatives and recognize that they would satisfy many of the requirements but ultimately in evaluating its sustainability this option seems like the most viable solution. In order for any of the electronic filing process to work efficiently, the employees and banks should be fully comfortable with the new filing process by the end of the summer when our support ends. Ultimately it is critical that robust Tier 1 and Tier 2 support for the solution are available in order for it to be sustainable. If there is a problem with the system that the employees may not know how to fix, there needs to be on island support. After evaluating the on island technological skill level and existing technology solutions, we recommend the option that would have the most extended support.

We have been researching into using Microsoft Access as the database management system coupled with encrypted email using Comodo digital signature. The main disadvantage to this solution is that it does not allow for remote access to the database which was one of the requests of the office for the consultants when they are abroad. Additionally, Microsoft Access does not provide the capability for automatic field validation.

Though we recommend this as the ultimate solution that we would implement, we hope this provides as a stepping stone for further solutions. As the staff in the office grows and with the recently hired IT technician, the database setup would allow for an easy exchange for a future cloud hosted application that can be maintained by the Banking Commission office.

# Appendix C.

## **CSV** File Specifications

The CTRs and SARs will be received via CSV files. A CSV file is a text file with the use of the comma as the field separator for the data.

- 1. Fields/columns are separated by the comma character.
- 2. Records/rows are terminated by newlines.
- 3. All records should have the same number of fields, in the same order.
- 4. Any field may be quoted (enclosed with double-quote characters)
  - "1998", "Jim", "Schwartz"
- 5. Fields with embedded commas or double-quote characters must be quoted.

1998, Jim, Schwartz, "Nice, friendly guy"

1998, Jim, Schwartz, "Nice, ""friendly"" guy"

6. The first record must be a header, which contains column names for each of the fields

## **Required fields and format for SARs**

Each row of a CSV file will correspond to a unique SAR with a unique SAR identification number. The format will be:

"Financial institution identifier"."SAR identification number"

The SAR identification number can be whatever each respective financial institution uses to uniquely identify their SARs.

Financial institution identifiers:

Bank of Marshall Islands: 1

Bank of Guam: 2

So, if Bank of Marshall Islands has a SAR with an ID/filing number of:

SARB125478963478569

Then the CTRID would be:

1.SARB125478963478569

We used the current Banking Commission SAR format as the template for the fields and extracted a subset of the fields containing only the information needed by the Banking Commission. If a field has options, such as "yes" or "no", the available options are listed under the numbered field as bullet points. Additionally, mandatory fields will have a "\*" next to its name; all other fields are applicable if the information is available, if not, leave the field in blank.

- 1. SARID\*
- 2. typeOfFinancialInstitution
- 3. fullNameOfFinancialInstitution\*
- 4. EIN\*
- 5. nameOfBranchOfficeAgency\*
- 6. addressBranch
- 7. addressCityBranch
- 8. zipCodeBranch

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9. accountNumber\*

- 10. closedAccount\*
  - Yes
  - No
- 11. lastNameOrNameOfEntity\*
- 12. firstName\*
- 13. middleName
- 14. gender
- 15. address\*
- 16. addressCity\*
- 17. addressState\*
- 18. zipCode\*
- 19. addressCountry\*
- 20. SSNorPNorDNorEINorTIN\*
- 21. phoneNumberResidence
- 22. phoneNumberWork
- 23. occupationOrTypeOfBusiness
- 24. dateOfBirth\*

#### MM/DD/YYYY

- 25. admissionConfession\*
  - Yes

No

26. idType\* (values are not restricted to ones specified below)

Driver's License/State ID

Passport Alien Registration

Other

- 27. idNumber\*
- 28. idCountry\*
- 29. relationshipToFinancialInstitution\* (can be more than one, values will be separated by commas and quoted, values are not restricted to ones specified below)

Accountant Agent Appraiser Attorney Borrower Broker Customer Director Employee Officer Shareholder Other

30. typeOfInsiderRelationship\*

None

Still Employed

Suspended

Terminated

Resigned

31. dateOfSuspensionTerminationResignation\*

MM/DD/YYYY

 32. startDateOfSuspiciousActivity\* MM/DD/YYYY
 33. endDateOfSuspiciousActivity\*

- MM/DD/YYYY
- 34. cashAmount\*
- 35. summaryCharacterization\* (can be more than one, values will be separated by commas and quoted, values are not restricted to ones specified below)

Money Laundering Bribery/Gratuity Check Fraud Commercial Loan Fraud Computer Intrusion Consumer Loan Fraud Counterfeit Check Counterfeit Credit/Debit Card Counterfeit Instrument (other) Credit Card Fraud Debit Card Fraud Defalcation/Embezzlement False Statement Misuse of Position or Self Dealing Mortgage Loan Fraud Mysterious Disappearance Wire Transfer Fraud Other 36. affectedFinancialInstitution\* Yes No 37. lastNameOrEntityNameForAssistance 38. firstNameForAssistance 39. tittleOccupation 40. phoneNumber 41. datePrepared\*

MM/DD/YYYY

42. narrative\*

## **Required fields and format for CTRs**

The CTRs will be broken up into two CSV files. One file will have information for the Person(s) involved in transactions (PIT\_info) and another file will have the rest of the information for the CTRs (CTR\_info). Additionally, mandatory fields will have a "\*" next to its name; all other fields are applicable if the information is available, if not, leave the field in blank.

PIT\_info:

Each row will correspond to a unique "Person Involved in Transaction" entry for each CTR that has been filed. This information comes from the current CTR format that each bank files, Banking Commission/FinCen format: Part I Person Involved in Transaction. For example, if there are three CTRs filed in a given time period: CTR1, CTR2, CTR3. Where CTR1 and CTR2 have 3 persons involved in the transaction and CTR3 has 1 person involved in the transaction. Then, PIT\_info will have a total of 7 entries, with each row corresponding to one person involved in the transaction across all of the CTRs.

CTR\_info:

Each row will correspond to a unique CTR. The fields in each entry were derived from Part II and Part III of the current CTR format that each bank files with the Banking Commission/FinCen. PIT\_info and CTR\_info will be linked together through a CTRID.

Each "person involved in transaction" entry will have the CTRID of the CTR that they are associated with. In order to ensure that CTRID is unique across the two financial

institutions we require that each financial institution include a unique identifier as part of the CTRID. The format will be:

"Financial institution identifier"."CTR identification number"

Using the same format specified in the SAR CSV section and the same financial institution identifiers: Bank of Marshall Islands: 1

Bank of Guam: 2

If Bank of Guam has a CTR with an ID/filing number of:

CTRB1633102000001

Then the CTRID would be:

2.CTRB1633102000001

Fields for PIT\_info:

- 1. CTRID\*
- 2. relationshipToTransaction\*

Person on whose behalf transaction was conducted Person conducting transaction for another Person conducting transaction on own behalf Courier Service (private)

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- 3. lastNameOrNameOfEntity\* (for the case of Part I, Section A, Item 5. If the person is 'Doing Business As' a particular company, the value of this field should be as follows: "Matias Rosales, Company A". This means Matias Rosales doing business as Company A)
- 4. firstName\*
- 5. middleName
- 6. gender
- 7. occupationOrTypeOfBusiness
- 8. SSNorEIN\*
- 9. address\*
- 10. addressCity\*
- 11. addressState\*
- 12. zipCode\*
- 13. addressCountry\*
- 14. dateOfBirth\*

MM/DD/YYYY

- 15. contactPhoneNumber
- 16. emailAddress
- 17. idType\*(values are not restricted to ones specified below)

Driver's License/State ID

Passport

Alien Registration

- Other
- 18. idNumber\*
- 19. idCountry\*

Fields for CTR\_info:

- 1. CTRID\*
- 2. dateOfTransaction\*
  - MM/DD/YYYY
- 3. cashDirection\* (value can be other than the ones specified below)
  - Withdrawal Deposit Wire Deposit Wire Withdrawal Currency Exchanged Foreign Currency Negotiable Instruments Purchased Negotiable Instruments Cashed Other
- 4. cashAmount\* (in case of multiple deposits/withdrawals, put the aggregated value)
- 5. accountNumbers\* (can be more than one, values will be separated by commas and quoted)
- 6. typeOfFinancialInstitution

- 7. fullNameOfFinancialInstitution\*
- 8. nameOfBranchOfficeAgency\*

Reference Files ctrs.csv sars.csv pit.csv

# Appendix D.

# **Tables Diagram**



# Appendix E.

## How to use the Forms

## **MainForm:**

• The **MainForm** is the home page for the application

	E.										
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A PLAN KE ETUNE	320			Ρ.	O. Box 14	08 ~ Majuro	~ Marsh	all Islands ~ 96	960		
and the second se		Phone No	o. (692) 62	5-6310 ~ 1	Fax No. (6	92) 625-6309	~ Email	Address: admi	nistration	@bankingc	omm.org
ID:											
Last Name / Name of Entit	ty:				Forms			Genera	te Repo	rts	Plots
Start Date (MM/DD/YYYY)							CTD- D		0.		
End Date (MM/DD/YYYY):					SAR	CTR	s	CIRSBy	Person	ARS By Person	CIRs by Financial Entity p
Account Number:								CTRs By	Month	ARs By Month	
								CTRS	v Year	SARs By Year	
Financial Entity:									.,		
	[							Cri	me Classifica	tion (SAR)	
	Sear	ch									
Matching CTRs	1										
CTRID	<ul> <li>lastNameOrNar</li> </ul>	<ul> <li>firstName</li> </ul>	<ul> <li>middleName</li> </ul>	- gender	<ul> <li>occupati</li> </ul>	onC + SSNorEIN	<ul> <li>addres</li> </ul>	ss • addressCity •	addressSta	ti • zipCode	<ul> <li>address(  </li> </ul>
1.05-16-000	MARSHALL	JOHN		Male	FISHERM	AN 000111222	PO BOX	0 MAJURO		96960	MARSHA
1.05-16-000	TEST CO. 1				FISHING	CO. 222000111	PO BOX	0 MAJURO		96960	MARSHA
1.05-17-000	MARSHALL	JOHN		Male	FISHERM	AN 000111222	PO BOX	0 MAJURO		96960	MARSHA
1.05-17-000	TEST CO. 1				FISHING	CO. 222000111	PO BOX	0 MAJURO		96960	MARSHA
1.05-19-000	JJ ENTERPRISES				WHOLES	ALE 666555444	POBOX	00 MAJURO		96960	MARSHA
1.05-85-000	TEST CO. I				FISHING	222000111	POBOX	MAJURO		90900	MAKSHA -
Record: 1 of 16	No Filter	Search	1								,
Matching SARs											
	* typeOf	FinancialInstitut	ion + fullNar	neOfFinancial	Instituti +	EIN	*	nameOfBranchOffice	Agency •	addressBra	anch +
SARID	· upeor					EIN • r		nameOfBranchOfficeAgency •			
SARID	Bank		Bank of	Majuro	7	39456-99		Local Branch	P	O, BOX 1	

fome					geomman				
		<b>Re</b> Phone No	<b>publi</b> Ba . (692) 625-6310	<b>c of 1</b> <b>nkin</b> P.O. Box 1408 ~ Fax No. (692	the g Co 3 ~ Majuro ~ 2) 625-6309	Ma om Marsha ~ Email A	rshall missic Il Islands ~ 96960 Address: administr	Islan on	. <b>ds</b>
ID: Last Name / N	ame of Entity:			<b>Farma</b>			Concepto D		Dista
Start Date (MM	1/DD/YYYY):			Forms			Generate R	eports	PIOTS
End Date (MM	(DD/YYYY):			SARs	CTRs		CTRs By Perso	n SARs By Person	CTRs by Financial Entity p
Account Numb	per:						CTRs By Mont	SARs By Month	50
Financial Entit	v:						CTRs By Year	SARs By Year	
Matching	Sea	arch					Crime Cla	ssification (SAR)	
CTF	RID - lastNameOrNa	ar • firstName •	middleNam - gende	er + occupationC	- SSNorEIN	- address	- addressCity - addr	essState - zipCode	<ul> <li>address(  </li> </ul>
1.05-16-000	MARSHALL	JOHN	Male	FISHERMAN	000111222	PO BOX 0	MAJURO	96960	MARSHA
1.05-16-000	TEST CO. 1	IOHN	Mala	FISHING CO.	222000111	PO BOX 0	MAJURO	96960	MARSHA
1.05-17-000	TEST CO 1	JUHIO	Male	FISHERMAN FISHING CO	222000111	POBOXO	MAJURO	96960	MARSHA
1.05-19-000	JJ ENTERPRISES	s		WHOLESALE	666555444	PO BOX 00	0 MAJURO	96960	MARSHA
1.05-85-000	TEST CO. 1			FISHING CO.	222000111	PO BOX 0	MAJURO	96960	MARSHA 🗸
Record: H 🖂 1	of 16 🕨 🕨 🕫 🜾 No. Filter	Search 4	Ш		***		All Ba	bir	•
Matching S	ARs								
	SARID - type(	OfFinancialInstitutio	n • fullNameOfFinan	cialInstituti: •	EIN	+ r	nameOfBranchOfficeAgenc	y 🔹 addressBra	anch 👻
1.SARB125	178963478569 Bank		Bank of Majuro	7894	56-99	L	ocal Branch	PO. BOX 1	
2 23452345	2345 Bank		Bank of Majuro	7894	56-99	N	Majuro		
2.20402040									
*									

• The CTRs SearchQuery subform displays matching CTRs from the SearchQuery

		Re	e <b>pub</b>	lic o Bank	f t in	he i	Ma om	rsha	11 1 sio	islan n	ds	
REAL AND REAL	OR ALL STOR			P.O. Box	1408	~ Majuro ~	Marsh	all Islands ~ 96	960			
and and		Phone N	o. (692) 625	-6310 ~ Fax No	. (692	) 625-6309	~ Email	Address: admi	inistrati	on@bankingc	omm.org	
ID:												
Last Name / Name of	Entity:			Form	S			Genera	ate Rep	orts	Plots	
Start Date (MM/DD/Y	YYY):							CTRs B	y Person	SARs By Person	CTRs by Finance	al Entity per N
End Date (MM/DD/YY	YY):			S	ARs	CTRs		CTRs B	v Month	SARs By Month		
Account Number:									,	,		
Financial Entity:			-					CTRs	By Year	SARs By Year		
								Cr	ime Classif	ication (SAR)		
	Sear	ch										
Matching CTRs	•											
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1.05-16-000	MARSHALL	JOHN		Male FISH	ERMAN	000111222	PO BOX	MAJURO		96960	MARSHA	
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• The **SearchQuerySARs** subform displays matching SARs from the **SearchQuery** 

- You can search by ID, Last Name / Name of Entity, between a Start Date and an End Date, Account Number, or Financial Entity.
- When you click on **Search**, it runs **SearchQuery**. The matching results are displayed in the two subforms discussed prior.

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LIN KE EIUN			021 625	P.O.	Box 1408	~ Majuro ^	Marsh	all Island	ls ~ 96960	ol and land	
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• There are reports that generate aggregated results by **Person**, **Month**, **Year** and **Type of Crime** for SARs.

ID: Last Name / Name of Entity: Start Date (MM/DD/YYY):		<b>Re</b> Phone N	e <b>pul</b>	Dlic Bar P.G 5-6310 ~ F	<b>of</b> <b>1 kir</b> 0. Box 140 Fax No. (69	the ng Co 8 ~ Majuro ~ 22) 625-6309	Ma: om: Marshal ~ Email A	rsha miss Islands ~ 961 ddress: admi	ll Is sion	slan L	ds.		
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Matching CTRs													
CTRID - last	NameOrNar +	firstName	<ul> <li>middleName</li> </ul>	gender	<ul> <li>occupation</li> </ul>	C - SSNorEIN	address	<ul> <li>addressCity</li> </ul>	addressState	zipCode	<ul> <li>address(  </li> </ul>		
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Matching SARs SARID LSARB125478963478569	<ul> <li>typeOfF</li> <li>Bank</li> </ul>	inancialInstitu	Bank of	Majuro	789	456-99	LO	cal Branch	PC	D. BOX 1			
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• There is a plot that generates a trendline of **Amount of CTRs** over time, aggregated by months, for every **Financial Entity**.

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TLIN KE EIUN	*			P.O	. Box 1408	~ Majuro	~ Marsh	all Islands ~ 96960			
		Phone No.	(692) 625	5-6310 ~ Fa	ax No. (692	) 625-6309	~ Email	Address: administra	tion@bankingc	omm.org	
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• To view/edit/add individual CTRs and SARs.

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2 2345234	2805				Durin Of h	INT N I V		100400			in ajuro					

## **CTRs:**

• The CTRs form is where you can view, edit, and add CTRs.

<b>1 1 1 1 1 1 1 1 1 1</b>		FIU - Banking Commi	sion		X
Currency Transaction Re	port Number:	1.05-16-000		Back to MainFo	rm
Part I: Person(s) Involved in Tr Relationship To Transaction: Last Name/Entity Name: First Name: Middle Name: Gender: Occupation/Type Of Business: SSN/EIN Address: City: State: Zip Code: Country: Date Of Birth: Phone Number: Email Address: Form Of Identification: ID Number: Issued By: Record: Id < 1 of 2 I I I I I I I I I I I I I I I I I I	Ansaction(s)  Person conducting transacti MARSHALL JOHN  Male FISHERMAN  000111222 PO BOX 0  MAJURO  96960 MARSHALL ISLANDS  6/1/1990  Passport  000111222 RMI 000111222 RMI 000111222	on for another    Save Person     Delete Record	Part II: Amount and Type Cash Amount: Cash Direction: Date Of Transaction: Account Number(s): Part III: Financial Institution: Full Name: Name of Branch/Agency:	of Transaction(s)          20000       \$         Deposit       *         1/11/2015       99987887         jon Where Transaction(s) Takes Pla         Bank of Majuro       *         Test Branch       Save         Record         Delete         Record	ce
Record: H 4 1 of 21 + H H2 K No Filter Form View	Search			Num L	ock "

• Person(s) involved in Transaction(s) within CTRs are displayed in Part I.

<u>9-0-</u> -		FIU - Banking Com	nision			<u> </u>
Currency Transaction Re	port Number:	1.05-16-000			B	ack to MainForm
Part I: Person(s) Involved in Tr	ansaction(s)		Part II: An	nount and Type of T	Transaction(s)	A
Relationship To Transaction:	Person conducting transac	tion for another	Cash Direr	tion:	enosit	
Last Name/Entity Name:	MARSHALL		Date Of Tr	ansaction: 1	/11/2015	
First Name:	JOHN	Save	Account N	umbor(s):	0027227	
Middle Name:		Person	Accountin		5567667	
Gender:	Male		Part III: Fi	nancial Institution	Where Transactio	n(s) Takes Place
Occupation/Type Of Business:	FISHERMAN		Type Of Fi	nancial Institution:		
SSN/EIN	000111222		Full Name	B	ank of Majuro	•
Address:	PO BOX 0		Name of B	Iranch/Agency:	est Branch	
City:	MAJURO					
State:						Save
Zip Code:	96960					Record
Country:	MARSHALL ISLANDS					
Date Of Birth:	6/1/1990					
Phone Number:						
Email Address:						
Form Of Identification:	Passport	T				
ID Number:	000111222	Delete				Delete
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<b>9</b>		FIU - Banking Com	nision	
Currency Trar	saction Report Number	: 1.05-16-000		Back to MainForm
Part I: Person(s) Relationship T Last Name/Ent First Name: Middle Name: Gender: Occupation/Ty SSN/EIN Address: City: State: Zip Code: Country: Date Of Birth: Phone Numbe Email Addresss Form Of Identit ID Number: Issued By:	Involved in Transaction(s) o Transaction: Person conducting t ity Name: MARSHALL JOHN DOUTI1222 PO BOX 0 MAJURO P6960 MARSHALL ISLANDS 6/1/1990 r: fication: Passport 000111222 RMI	ransaction for another	<ul> <li>Part II: Amount and Type</li> <li>Cash Amount:</li> <li>Cash Direction:</li> <li>Date Of Transaction:</li> <li>Account Number(s):</li> <li>Part III: Financial Institut</li> <li>Type Of Financial Institution</li> <li>Full Name:</li> <li>Name of Branch/Agency:</li> </ul>	e of Transaction(s)  20000  Deposit  I/11/2015 99987887  tion Where Transaction(s) Takes Place  Bank of Majuro Test Branch  Save Record  Delete Record
Record: I4 4 1 of 2 Record: I4 4 1 of 21 + H	H         K         No Filter         Search           H         K         No Filter         Search			Num Lock

• You can scroll through Person(s) Involved in Transaction in the current CTR

• You can scroll through CTRs records

Home					
rrency Transaction Re	port Number:	1.05-16-000			Back to MainFe
rt I: Person(s) Involved in Tra	ansaction(s)		Part II: Amount and Type	of Transaction(s)	
Relationship To Transaction:	Person conducting transact	ion for another	Cash Direction:	Deposit	
First Name:	JOHN	Save	Date Of Transaction:	1/11/2015	
Middle Name:		Person	Account Number(s):	99987887	
Gender:	Male	•	Part III: Financial Institut	ion Where Transact	tion(s) Takes Pl
Occupation/Type Of Business:	FISHERMAN		Type Of Financial Institution:		
SSN/EIN	000111222		Full Name:	Bank of Majuro	-
Address:	PO BOX 0		Name of Branch/Agency:	Test Branch	
City:	MAJURO				Save
Zip Code:	96960				Recor
Country:	MARSHALL ISLANDS				
Date Of Birth:	6/1/1990				
Phone Number:					
Email Address:					
Form Of Identification:	Passport	•			
ID Number:	000111222	Delete			Delet
	PMI	Record			Delete

• You can search for a CTR by **CTRID** 

rrency Transaction Report Number:       1.05-16-000       Back to N         t I: Person(s) Involved in Transaction(s)       Part II: Amount and Type of Transaction(s)         Relationship To Transaction:       Person conducting transaction for another       Cash Amount:       20000         Last Name/Entity Name:       MARSHALL       Save       Deposit       Date Of Transaction:       U11/2015         First Name:       JOHN       Save       Person       Cash Amount:       20000         Gender:       Male       Occupation/Type Of Business:       FisHERMAN       Save       Person         Occupation/Type Of Business:       FisHERMAN       Obili1222       Address:       Doin11222       Part III: Financial Institution:       Full Name:         Zip Code:       96960       Save       Person       Name of Branch/Agency:       Test Branch         Inderses:       Gender:       MAIURO       Name of Branch/Agency:       Test Branch       Inderse         Date Of Birth:       6/1/1990       Phone Number:       Delete       Percord       Inderses:       Inderses       Inde	Home					
Relationship To Transaction: Person conducting transaction for another   Last Name/Entity Name: MARSHALL   First Name: JOHN   First Name: JOHN   Gender: Male   Occupation/Type Of Business: FISHERMAN   SSN/EIN 000111222   Address: PO BOX 0   Citty: MAUURO   State: 20   Zip Code: 96960   Country: MARSHALL ISLANDS   Date Of Birth: 6/1/1990   Phone Number: Passport   Email Address: Passport   Form Of Identification: Passport	rency Transaction Re	port Number:	1.05-16-000			Back to MainFo
Relationship To Transaction: Person conducting transaction for another   Last Name/Entity Name: MARSHALL   JOHN Save   Person Person   Middle Name: Image: Save   Gender: Male   Occupation/Type Of Business: FISHERMAN   SSN/EIN 000111222   Address: PO BOX 0   Citry: MANRSHALL ISLANDS   Date Of Birnh: 6/1/1990   Phone Number: 50000   Email Address: Pasport   Form Of Identification: Pasport	t I: Person(s) Involved in Tr	ansaction(s)		Part II: Amount and Ty	pe of Transaction(s)	
Last Name/Entity Name: MARSHALL   First Name: JOHN   First Name: JOHN   Gender: Male   Gender: Male   Occupation/Type Of Business: FISHERMAN   SSN/EIN 000111222   Address: OBOX 0   City: MARSHALL ISLANDS   Date Of Birth: 6/1/1990   Phone Number: Image: Construction of the structure of the stru	Relationship To Transaction:	Person conducting transacti	ion for another	Cash Amount:	20000	:
First Name: JOHN   First Name: JOHN   JOHN Person     Middle Name:   Gender: Male   Occupation/Type Of Business:   FISHERMAN   SSN/EIN   00011222   Address:   PO BOX 0   City:   MAJURO   State:   Zip Code:   996960   Country:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport     Delete   Record	Last Name/Entity Name:	MARSHALL	<b>.</b>	Cash Direction:	Deposit	
Middle Name:   Gender:   Male   Occupation/Type Of Business:   FISHERMAN   SSN/EIN   000111222   Address:   PO BOX 0   City:   MAJURO   State:   Zip Code:   96960   Country:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport     Delete   Record	Eirst Name:	IOHN	Save	Date Of Transaction:	1/11/2015	
Gender: Male   Occupation/Type Of Business:   FISHERMAN   SSN/EIN   000111222   Address:   PO BOX 0   City:   MAJURO   State:   Zip Code:   96960   Country:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport     Delete   Record	Middle Name:		Person	Account Number(s):	99987887	
Occupation/Type Of Business:   FISHERMAN   SSN/EIN   000111222   Address:   PO BOX 0   City:   MAJURO   State:   Zip Code:   96960   Country:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport     Delete   Record	Gender:	Male		Part III: Financial Instit	ution Where Transacti	on(s) Takes Pl
SSN/EIN 000111222   Address: PO BOX 0   City: MAJURO   State:	Occupation/Type Of Business:	FISHERMAN		Type Of Financial Institutio	n:	
Address: PO BOX 0   City: MAJURO   State:	SSN/EIN	000111222		Full Name:	Bank of Majuro	
City: MAJURO   State:	Address:	PO BOX 0		Name of Branch/Agency:	Test Branch	
State:   Zip Code:   96960   Country:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport   ID Number:   Doublete   Record	City:	MAJURO				
Zip Code: 96960   Country: MARSHALLISLANDS   Date Of Birth: 6/1/1990   Phone Number:	State:					Save
Country: MARSHALL ISLANDS   Date Of Birth: 6/1/1990   Phone Number:	Zip Code:	96960				Recor
Date Of Birth: 6/1/1990   Phone Number:	Country:	MARSHALL ISLANDS				
Phone Number:   Email Address:   Email Address:   Form Of Identification:   Passport     ID Number:   000111222   Delete   Record	Date Of Birth:	6/1/1990				
Email Address:  Form Of Identification: Passport ID Number: 000111222 Delete Record	Phone Number:					
Form Of Identification: Passport  ID Number: Doll11222 Delete Record	Email Address:					
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ID Number: 000111222 Delete Record						
Record L	ID Number:	000111222	Delete			Delete
issued by.	Issued By:	RMI	Record			Recor
	1 of 21 🕨 H 🛤 隊 No Filter	Search				

- To add a new CTR, click on the arrow pointing right with the yellow \*
- Note: You **MUST** enter the CTRID **BEFORE** filling out any other fields

Home					
rrency Transaction Re	port Number:	1.05-16-000		<u>I</u>	Back to MainFo
rt I: Person(s) Involved in Tr	ansaction(s)		Part II: Amount and Ty	pe of Transaction(s)	
Relationship To Transaction:	Person conducting transact	ion for another	Cash Amount:	20000	-
Last Name/Entity Name:	MARSHALL	<b>.</b>	Cash Direction:	Deposit	
Eirst Name:	IOHN	Save	Date Of Transaction:	1/11/2015	
Middle Name:		Person	Account Number(s):	99987887	
Gender:	Male		Part III: Financial Instit	ution Where Transactio	on(s) Takes Pla
Occupation/Type Of Business:	FISHERMAN		Type Of Financial Institutio	n:	
SSN/EIN	000111222		Full Name:	Bank of Majuro	•
Address:	PO BOX 0		Name of Branch/Agency:	Test Branch	
City:	MAJURO				
State:					Save
Zip Code:	96960				Record
Country:	MARSHALL ISLANDS				
Date Of Birth:	6/1/1990				
Phone Number:					
Email Address:					
Form Of Identification:	Passport	•			
	6				
ID Number:	000111222	Delete			Delete
Issued By:	RMI	Record	<b>v</b>		Record
ecord: H 🔸 1 of 2 🕨 H 👫 🕅 🕅	Filter Search				
1 of 21 🕨 H 🛤 😵 No Filter	Search				

Home       Back to Mai         art I: Person(s) Involved in Transaction(s)       Person conducting transaction for another       Image: Cash Amount:       2000         Last Name/Entity Name:       MARSHALL       Save       Person       Cash Amount:       1/11/2015         Hiddle Name:       Image: Cash Amount:       1/11/2015       Deposit       Date Of Transaction:       1/11/2015         SSN/EIN       Male       Image: Coupation/Type Of Business:       PISHERMAN       Save       Person         State:       200 B0X 0       City:       MAJURO       Sate:       Bank of Majuro         State:       200 B0X 0       Sate:       Same       Rei         Zip Code:       6600       Sate:       Same       Same         Phone Number:       10000111222       Delete       Rei       Name of Branch/Agency:       Test Branch         ID Number:       0000111222       Deletet       Deletet       Deletet       Deletet	? - (4 - ) =		FIU - Banking Commi	ion		
tl: Person(s) Involved in Transaction(s)   Relationship To Transaction:   Person conducting transaction for another   Last Name/Entity Name:   MARSHALL   First Name:   JOHN   Save   Person   Gender:   Occupation/Type Of Business:   FistREMAN   SSN/EIN   Odo111222   Address:   Op Box 0   City:   MARSHALL ISLANDS   Date Of Birth:   6/1/1990   Phone Number:   Email Address:   Form Of Identification:   Passport   ID Number:   000111222   Delete   Porcord	Home rrency Transaction Re	port Number:	1.05-16-000			Back to MainFor
ID Number: Delete Record	rt I: Person(s) Involved in Tr Relationship To Transaction: Last Name/Entity Name: First Name: Middle Name: Gender: Occupation/Type Of Business: SSN/EIN Address: City: State: Zip Code: Country: Date Of Birth: Phone Number: Email Address: Form Of Identification:	Ansaction(s)  Person conducting transact MARSHALL JOHN  FISHERMAN  000111222 PO BOX 0  MAJURO  96960 MARSHALL ISLANDS  6/1/1990  Passport	ion for another	Part II: Amount and Type Cash Amount: Cash Direction: Date Of Transaction: Account Number(s): Part III: Financial Institut Type Of Financial Institution: Full Name: Name of Branch/Agency:	of Transaction(s) 20000 Deposit 1/11/2015 99987887 ion Where Transact Bank of Majuro Test Branch	tion(s) Takes Plac
Issued By: RMI Record R	ID Number: Issued By:	000111222 RMI	Delete Record	•		Delete Record

• To add a new person to a CTR, click on the arrow pointing right with the yellow \*

rency Transaction Re	port Number:	1.05-16-000		<u>E</u>	Back to Mainf
Relationship To Transaction Re Relationship To Transaction: Last Name/Entity Name: First Name: Middle Name: Gender: Occupation/Type Of Business: SSN/EIN Address: City: State: Zip Code:	Person conducting transact MARSHALL JOHN Male FISHERMAN 000111222 PO BOX 0 MAJURO	ion for another    Save Person	Part II: Amount and Type Cash Amount: Cash Direction: Date Of Transaction: Account Number(s): Part III: Financial Institution Full Name: Name of Branch/Agency:	e of Transaction(s) 20000 Deposit 1/11/2015 99987887 ation Where Transaction Bank of Majuro Test Branch	on(s) Takes P
Date Of Birth: Phone Number: Email Address: Form Of Identification: ID Number: Issued By: cord. 14 (1 of 2 + N+M) Vic Net	6/1/1990 Passport 000111222 RMI Filter Search	Delete     Record	•		Delet Reco

• Fields with an arrow in the text box have values that can be selected

( <u>) () () +</u>		FIU - Banking Co	mmision		
Currency Transaction R	eport Number:	1.05-16-000			Back to MainForm
Part I: Person(s) Involved in T Relationship To Transaction: Last Name/Entity Name: First Name: Middle Name: Gender: Occupation/Type Of Business: SSN/EIN Address: City: State: Zip Code: Country: Date Of Birth: Phone Number: Email Address: Form Of Identification: ID Number:	Person conducting transacti         MARSHALL         JOHN         Male         FISHERMAN         000111222         PO BOX 0         MAJURO         96960         MARSHALL ISLANDS         6/1/1990         Passport         000111222	on for another	Part II: Amou Cash Amount: Cash Direction Date Of Trans. Account Num Part III: Final Type Of Finan Full Name: Name of Bran	unt and Type of Transaction(s) : 2000 n: Deposit action: Withdrawal ber(s): Wire Deposit Wire Uthdrawal ncial Institution cial Institution Bank of Majuro ch/Agency: Test Branch	Save Record

rency Transaction Re	port Number:	1.05-16-000			Back to Mainl
t I: Person(s) Involved in Tra- Relationship To Transaction: Last Name/Entity Name: First Name: Middle Name: Gender: Occupation/Type Of Business: SSN/EIN Address: City: State: Zip Code: Country: Date Of Birth: Phone Number: Email Address:	Ansaction(s) Person conducting transaction(s) MARSHALL JOHN Male FISHERMAN 000111222 PO BOX 0 MAJURO 96960 MARSHALL ISLANDS 6/1/1990	tion for another	Part II: Amount and Type Cash Amount: Cash Direction: Date Of Transaction: Account Number(s): Part III: Financial Institut Type Of Financial Institution: Full Name: Name of Branch/Agency:	of Transaction(s) 20000 Deposit 1/11/2015 99987887 ion Where Transact Bank of Majuro Test Branch	tion(s) Takes P
ID Number:	000111222	Delete Record			Delet

• To **Save** or **Delete** a Person(s) Involved In Transaction(s), click the respective buttons

- To **Save** or **Delete** a CTR, click the respective buttons
- Note: Always **Save** the Person(s) Involved In Transaction(s) before filling out the rest (Part II and III), as a best practice.

Home				
rrency Transaction Re	port Number:	1.05-16-000		Back to MainFo
art I: Person(s) Involved in Tra	ansaction(s)		Part II: Amount and Typ	pe of Transaction(s)
<ul> <li>Relationship To Transaction:</li> <li>Last Name/Entity Name:</li> <li>First Name:</li> <li>Middle Name:</li> <li>Gender:</li> <li>Occupation/Type Of Business:</li> <li>SSN/EIN</li> <li>Address:</li> <li>City:</li> <li>State:</li> <li>Zip Code:</li> <li>Country:</li> <li>Date Of Birth:</li> <li>Phone Number:</li> <li>Email Address:</li> </ul>	Person conducting transact MARSHALL JOHN Male FISHERMAN 000111222 PO BOX 0 MAJURO 96960 MARSHALL ISLANDS 6/1/1990	Save Person	<ul> <li>Cash Amount:</li> <li>Cash Direction:</li> <li>Date Of Transaction:</li> <li>Account Number(s):</li> <li>Part III: Financial Institution</li> <li>Full Name:</li> <li>Name of Branch/Agency:</li> </ul>	20000 ↓ Deposit ▼ 1/11/2015 99987887 ution Where Transaction(s) Takes Pla n: Bank of Majuro ▼ Test Branch Save Record
Form Of Identification: ID Number: Issued By:	Passport 000111222 RMI	Delete     Record		Delete

• To go back to the **MainForm** 

rency Transaction Re	port Number:	1.05-16-000				Back to Main
t I: Person(s) Involved in Tra	ansaction(s)			Part II: Amount and Type	of Transaction(s)	
Relationship To Transaction: Last Name/Entity Name:	Person conducting transact	tion for another		Cash Direction:	Deposit	
First Name:	ЛОНИ	Save Person		Date Of Transaction: Account Number(s):	1/11/2015 99987887	
Gender:	Male			Part III: Financial Instituti	on Where Transa	ction(s) Takes
Occupation/Type Of Business: SSN/EIN	FISHERMAN 000111222			Full Name:	Bank of Majuro	
Address: City:	PO BOX 0 MAJURO			Name of Branch/Agency:	Test Branch	
State:	00000					Sav
Country:	MARSHALL ISLANDS					
Date Of Birth: Phone Number:	6/1/1990					
Email Address:	Passnort					
		Delete				
ID Number: Issued By:	000111222 RMI	Record	<b>L</b>			Dele

## SARs:

• To SARs form is where you can view, edit and add SARs

6	1) 19 (P · · ) +		FIU -	Banking Commision		
<u>_</u>	Home					۷
	Suspicious Activity Re	eport Number:	1.SARB12547896347856	9		Back to MainForm
•	Part I: Reporting Financial	Institution Information	Admission/Confession?:	No	Part V: Suspicious Activity	Information Explanation/Description
	Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport 🔹	Narrative:	All the data presented for this test is
	Type of Financial Institution:	Bank	the second second			
	EIN/TIN:	789456-99	ID Number	11111		
	Name of Branch Office/Agency:	Local Branch	Issued By:	Peru		
	Address of Branch:	PO. BOX 1	Relationship To Financial Institution:	Customer 🗸		
	City:	Majuro	Type of Insider Relationship:	None		
	Zip Code:	96960	Date of Suspension/	6/15/2016		
	Account Number(s) Affected:	1112233334	Termination/Resignation:			
	Account Closed?:	No				
	Part II: Suspect Informatio	n	Part III: Suspicious Activity	Information		
	Last Name/Name of Entity:	Quintana	Date of Date Range of Suspicion			
	First Name:	Matias	From: 6/1//2016	To: 8/18/2016		Save
	Middle Name	Alberto	In Suspicious Activity:	15000		Record
	Gender:	male	Summary Characterization:	False Statement, Money Laundering, C 💌		
	Address:	PO. BOX 2	Has The Financial Soundness Of	No		
	City:	Majuro	The Institution Been Affected?			
	State:		Part IV: Contact for Assista	ince		
	Zip Code:	96960	Lact Name /Name Of Entity	Ave ani		
	Country:	MH	East Name/ Name Of Entry.	Ayo-alli		
	SSN/PN/DN/EIN/TIN:	47047460	Tittle (Ogunation)	Compliance Specialist		
	Phone Number - Residence:		Bhone Number			
	Phone Number - Work:		Priorie Number.	6/17/2016		
	Occupation/Type of Business:	Engineer	Date Prepared:	0/1//2010		Delete
	Date of Birth:	6/1/2016				Record
Re	cord: H 4 1 of 2 > H H2 🔆 No F	ilter Search				
Fo	rm View					Num Lock

• You can scroll through the SAR entries

19 - (u - ) =		FIU -	Banking Commision			
Suspicious Activity Re	port Number:	1.SARB12547896347856	Э			Back to MainFor
Part I: Reporting Financial	Institution Information	Admission/Confession?:	No	•	Part V: Suspicious Activ	vity Information Explanation/Descripti
Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport	•	Narrative:	All the data presented for this test is noise data
Type of Financial Institution: EIN/TIN:	Bank 789456-99	ID Number	777777			
Name of Branch Office/Agency: Address of Branch:	Local Branch PO. BOX 1	Relationship To Financial Institution:	Customer	•		
City:	Majuro	Type of Insider Relationship:	None	•		
Account Number(s) Affected:	1112233334	Termination/Resignation:	0/15/2010			
Account Closed ?: art II: Suspect Informatio	n	Part III: Suspicious Activity	Information			
Last Name/Name of Entity:	Quintana	From: 6/17/2016	To: 8/18/2016			
First Name: Middle Name	Matias Alberto	Total Dollar Amount Involved In Suspicious Activity:	15000			Save Record
Gender:	male	Summary Characterization:	False Statement, Money Laur	ndering, C 💌		
Address: City:	PO. BOX 2 Majuro	Has The Financial Soundness Of The Institution Been Affected?	No	•		
State:		Part IV: Contact for Assista	nce			
Zip Code:	96960	Last Name/Name Of Entity:	Ayo-ani			
SSN/PN/DN/EIN/TIN:	47047460	First Name:	Jibby			
Phone Number - Residence: Phone Number - Work:		Phone Number:	8888888			
Occupation/Type of Business:	Engineer	Date Prepared:	6/17/2016			Delete Record
4 ← 1 of 2 → H M K No Fi	Iter Search					

# • You can search for a SAR by **SARID**

Home			, <u>, , , , , , , , , , , , , , , , , , </u>		
uspicious Activity Re	port Number:	1.SARB125478963478	3569		Back to MainFo
art I: Reporting Financial	Institution Information	Admission/Confession?:	No	Part V: Suspicious Activ	ity Information Explanation/Descript
Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport 🔹	Narrative:	All the data presented for this test is noise data
Type of Financial Institution:	Bank				
EIN/TIN:	789456-99	ID Number			
Name of Branch Office/Agency:	Local Branch	Issued By:	Peru		
Address of Branch:	PO. BOX 1	Relationship To Financial Institution:	Customer		
City:	Majuro	Type of Insider Relationsh	ip: None 🔻		
ip Code:	96960	Date of Suspension/	6/15/2016		
Account Number(s) Affected:	1112233334	Termination/Resignation:			
Account Closed?:	No	-			
ast Name/Name of Entity:	Quintana	Date or Date Range of Sus From: 6/17/2010	picious Transaction: 6 To: 8/18/2016		
First Name:	Matias	Total Dollar Amount Invol	ved 15000		Save
Middle Name	Alberto	In Suspicious Activity:			Record
Gender:	male	Summary Characterization	False Statement, Money Laundering, C 💌		
Address:	PO. BOX 2	Has The Financial Soundne	ess Of No		
City:	Majuro				
State:		Part IV: Contact for As	sistance		
Zip Code:	96960	Last Name/Name Of Entity	y: Ayo-ani		
Country:	MH	First Name:	Jibby		
SSN/PN/DN/EIN/TIN:	47047460	Tittle/Ocupation:	Compliance Specialist		
Phone Number - Residence:		Phone Number:	888888		
		Date Prepared:	6/17/2016		
Phone Number - Work:					Delete
Phone Number - Work: Occupation/Type of Business:	Engineer				

- To add a new SAR, click on the arrow pointing right with the yellow \*
- Note: You **MUST** enter the SARID **BEFORE** filling out any other fields

uspicious Activity Re	port Number:	1.SARB125478963478569	9		Back to MainFo
Part I: Reporting Financial	Institution Information	Admission/Confession?:	No	Part V: Suspicious Activit	ty Information Explanation/Descript
Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport 🔹	Narrative:	All the data presented for this test is
Type of Financial Institution:	Bank				hoise data
EIN/TIN:	789456-99	ID Number	7777777		
Name of Branch Office/Agency:	Local Branch	Issued By:	Peru		
Address of Branch:	PO. BOX 1	Relationship To Financial Institution:	Customer		
City:	Majuro	Type of Insider Relationship:	None		
Zip Code:	96960	Date of Suspension/	6/15/2016		
Account Number(s) Affected:	1112233334	Termination/Resignation:			
Account Closed?:	No	1			
Last Name/Name of Entity:	Quintana	Date or Date Range of Suspiciou From: 6/17/2016	us Transaction: To: 8/18/2016		
First Name:	Matias	Total Dollar Amount Involved	15000		Save
Middle Name	Alberto	In Suspicious Activity:			Record
Gender:	male 💌	Summary Characterization:	False Statement, Money Laundering, C 💌		
Address:	PO. BOX 2	Has The Financial Soundness Of	No		
City:	Majuro	The institution been Affecteur:			
State:		Part IV: Contact for Assista	ince		
Zip Code:	96960	Last Name/Name Of Entity:	Ayo-ani		
Country:	MH	First Name:	Jibby		
SSN/PN/DN/EIN/TIN:	47047460	Tittle/Ocupation:	Compliance Specialist		
Phone Number - Residence:		Phone Number:	8888888		
Phone Number - Work:		Date Prepared:	6/17/2016		
	Engineer				Delete
Occupation/Type of Business:	Lingineer				_

• Fields with an arrow in the text box have values that can be selected

17 - (21 - ) =		FIU -	Banking Commision		
Suspicious Activity Re	eport Number:	1.SARB125478963478569	Э		Back to MainFor
Part I: Reporting Financial	Institution Information	Admission/Confession?:	No	Part V: Suspicious Activi	ty Information Explanation/Descripti
Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport 🔹	Narrative:	All the data presented for this test is noise data
Type of Financial Institution:	Bank	ID Number	777777		
EIN/TIN:	789456-99	ib Number	Deru		
Name of Branch Office/Agency:	Local Branch	Bolationship To Financial	Customer		
Address of Branch:	PO. BOX 1	Institution:			
City:	Majuro	Type of Insider Relationship:	None		
Zip Code:	96960	Date of Suspension/	6/15/2016		
Account Number(s) Affected:	1112233334	Termination/Resignation:	·		
Account Closed?:	No	•			
art II: Suspect Informatio	n	Part III: Suspicious Activity Date or Date Range of Suspiciou	Information		
Last Name/Name of Entity:	Quintana	<ul> <li>From: 6/17/2016</li> </ul>	To: 8/18/2016		
First Name:	Matias	Total Dollar Amount Involved	15000		Save
Middle Name	Alberto	In Suspicious Activity:			Record
Gender:	male	<ul> <li>Summary Characterization:</li> </ul>	False Statement, Money Laundering, C 💌		
Address:	PO. BOX 2	Has The Financial Soundness Of	No		
City:	Majuro	The Institution Been Affected r:			
State:		Part IV: Contact for Assista	ince		
Zip Code:	96960	Last Name/Name Of Entity:	Avo-ani		
Country:	MH	First Name:	Jibby		
SSN/PN/DN/EIN/TIN:	47047460	Tittle/Ocupation:	Compliance Specialist		
Phone Number - Residence:		Phone Number:	8888888		
Phone Number - Work:		Date Prepared:	6/17/2016		
Occupation/Type of Business:	Engineer	buce reputed.	v) 21 1 2020		Delete
Date of Birth:	6/1/2016				Record
H 4 1 of 2 F H H K No Fi	iter Search				

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	FIU -	Banking Commision		
Home				0
Suspicious Activity Report Number: 1	L.SARB125478963478569	9		Back to MainForm
Part I: Reporting Financial Institution Information	Admission/Confession?:	No	Part V: Suspicious Activity	Information Explanation/Description
Name of Financial Institution: Bank of Majuro	Form Of Identification:	passport 💌	Narrative:	All the data presented for this test is noise data
Type of Financial Institution: Bank	ID Number			
EIN/TIN: 789456-99	ID Number			
Name of Branch Office/Agency: Local Branch	Issued By:	Peru		
Address of Branch: PO_BOX 1	Relationship To Financial	Customer		
		Accountant		
City: Majuro	Type of Insider Relationship:	V Appraiser		
Zip Code: 96960	Date of Suspension/	Attorney		
Account Number(s) Affected: 1112233334	] Termination/Resignation:	2 Borrower		
Account Closed?: No	]	Customer		
Part II: Suspect Information	Part III: Suspicious Activity	Director Employee		
Last Name/Name of Entity: Quintana	5 T	Shareholder		
First Name: Matias	From: 6/17/2016	Other		Save
Middle Name Alberto	Total Dollar Amount Involved	OK Cancel		Becord
Gender: male	Summary Characterization:	False Statement, Money Laundering, C		heedra
Address: PO, BOX 2	Has The Financial Soundness Of	No		
City: Majuro	The Institution Been Affected?:			
State:	Part IV: Contact for Assista	nce		
Zip Code: 96960				
Country: MH	Last Name/Name Of Entity:	Ayo-ani		
SSN/PN/DN/EIN/TIN: 47047460	First Name:	Juppy		
Phone Number - Residence:	Tittle/Ocupation:	Compliance Specialist		
Phone Number - Work:	Phone Number:	8888888		
Occupation/Type of Business: Engineer	Date Prepared:	6/17/2016		Delete
Date of Birth: 6/1/2016	]			Record
Record: H 4 1 of 2 + H H K No Filter Search				
Form View				Num Lock 🛒

• To **Save** or **Delete** an SAR, click the respective buttons

Home		FIU	- Banking Commision		
uspicious Activity F	eport Number:	1.SARB12547896347856	9		Back to MainFor
art I: Reporting Financia	I Institution Information	Admission/Confession?:	No	Part V: Suspicious A	ctivity Information Explanation/Descripti
Name of Financial Institution: Type of Financial Institution:	Bank of Majuro Bank	Form Of Identification:	passport 777777	Narrative:	All the data presented for this test is noise data
EIN/TIN: Name of Branch Office/Agenc Address of Branch:	789456-99 /: Local Branch PO. BOX 1	Issued By: Relationship To Financial Institution:	Peru Customer	•	
City: Zip Code: Account Number(s) Affected:	Majuro 96960 1112233334	Type of Insider Relationship: Date of Suspension/ Termination/Resignation:	None 6/15/2016		
Account Closed?: art II: Suspect Informati	No	Part III: Suspicious Activity	v Information		
Last Name/Name of Entity: First Name: Middle Name Gender: Address: City: State: Jip Code: Country: SNJ/PN/CIN/EIN/TIN: Phone Number - Residence:	Quintana Matias Alberto male PO. BOX 2 Majuro 96960 MH 47047460	From: 6/17/2016      Total Dollar Amount Involved In Suspicious Activity:     Summary Characterization:     Has The Financial Soundness O     The Institution Been Affected?     Part IV: Contact for Assist:     Last Name/Name Of Entity:     First Name:     Tittle/Ocupation:     Phone Number:     Date Dranard:	Is instaction: To: 8/18/2016 Isouo False Statement, Money Laundering, C it No ance Ayo-ani Jibby Compliance Specialist 8888888 6(17/2016		Save Record
Phone Number - Work:		Dute riepured.			

# • To go back to the **MainForm**

		4 64 884 35 4700 63 4705 6			
uspicious Activity Re	eport Number:	1.SARB12547896347856	9		Back to MainFo
art I: Reporting Financial	Institution Information	Admission/Confession?:	No	Part V: Suspicious Activi	ty Information Explanation/Descrip
Name of Financial Institution:	Bank of Majuro	Form Of Identification:	passport 🔹	Narrative:	All the data presented for this test is noise data
Type of Financial Institution:	Bank				
EIN/TIN:	789456-99	ID Number	111111		
Name of Branch Office/Agency:	Local Branch	Issued By:	Peru		
Address of Branch:	PO. BOX 1	Institution:	Customer		
City:	Majuro	Type of Insider Relationship:	None		
Zip Code:	96960	Date of Suspension/	6/15/2016		
Account Number(s) Affected:	1112233334	Termination/Resignation:	·		
Account Closed?:	No	-			
art II: Suspect Informatio	n	Part III: Suspicious Activity	v Information		
		Date or Date Range of Suspicio	us Transaction:		
Last Name/Name of Entity:	Quintana	From: 6/17/2016	To: 8/18/2016		
First Name:	Matias	Total Dollar Amount Involved	15000		Save
Middle Name	Alberto	In Suspicious Activity:			Record
Gender:	male	Summary Characterization:	False Statement, Money Laundering, C 💌		
Address:	PO. BOX 2	Has The Financial Soundness C	v No		
City:	Majuro	The institution Been Affected			
State:		Part IV: Contact for Assist	ance		
Zip Code:	96960	Last Name/Name Of Entity	Avo-ani		
Country:	MH	First Name	libby		
SSN/PN/DN/EIN/TIN:	47047460	Tittle/Ocupation:	Compliance Specialist		
Phone Number - Residence:		Phone Number:	8888888		
Phone Number - Work:		Date Prenared	6/17/2016		
Occupation/Type of Business:	Engineer	Date Frepareu.	V/ 1// 2010		Delete
					Recon

# Appendix F.

### Splitting an Access database:

In order to allow multiple users to use the database concurrently, it is necessary to split the Microsoft Access database. When you split a database, you reorganize it into two files: a back-end database that contains the data tables and a front-end database that contains queries, reports, and forms. Each user has a local copy of the front-end database and then one user has the back-end database. The other users can access that copy of the back-end database over the local network.

- 1. On your computer, make a copy of the database file
  - This ensures that if something goes wrong during the process, you have a working version of the database.
- 2. Open the copy of the database file.
- 3. Under the **Database Tools** tab, in the **Move Data** group, click on **Access Database**. This opens the database splitter wizard



#### 4. Click Split Database.



**RMI** Banking Commission

Jibby Ayo-Ani, Matias Quintana, Student Consultants

- 5. In the Create Back-end Database window, specify a file name, database type, and location for the back-end database file.
  - We recommend using the default name and database type that Access recommends.
  - Choose the location for the back-end database file.

🔓 Create Back-end Da	tabase						×
🔵 🗢 🖹 🕨 Lib	raries 🕨 Documents 🕨			<b>▼</b> 49	Search Documen	ts	۶
Organize 🔻 Ne	v folder					•	0
🕼 Microsoft Office	A Documents library Includes: 2 locations				Arrange b	y: Folder 🔻	
<ul> <li>Favorites</li> <li>Box Sync</li> <li>Desktop</li> <li>Downloads</li> <li>Recent Places</li> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> </ul>	Name Banking Commission Database Banking Commission Database Local De Bluetooth Folder	Date modified 7/18/2016 4:39 PM 7/18/2016 5:46 PM 6/21/2016 6:48 PM	Type File folder File folder File folder	Size			
File name:	BCDB - Copy be						
Save as type:	Microsoft Office Access 2007 Databases						
Hide Folders				Too <u>l</u> s ▼	<u>S</u> plit	Cancel	

6. Once complete, there will be a confirmation message.



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- 7. The database is now split. The front-end database is the file that you initially started with (the copy of the original database). The back-end database is the file that was created in step 5.
- 8. You can now distribute the front-end database file to each of the users using a usb drive, network shared folders or as an email attachment.

# Appendix G.

### Windows Homegroup and Sharing Files:

In order to share the database, each user should have a copy of the front-end database. However, they need to access the same back-end database file in order to keep the tables consistent. We will use Windows Homegroup in order to share access to the back-end database file.

A Homegroup makes it easy to share files across a local network. One user creates a Homegroup in its computer and then other users join that Homegroup. Each user can then select the files or folders that they want to share with the other users within the Homegroup, as well as the access level (read or write) to those files.

### Joining the Homegroup and Sharing Files:

1. Click on the Homegroup tab in the Windows Explorer



Note: If it does not appear on the Windows Explorer, click on Control Panel in the Start Menu



#### Then click on Network and Internet

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#### Then on **HomeGroup**



2. There should be a message that your computer has detected a Homegroup on the network. Click **Join now** 

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•	Share with other home computers running Windows 7
	Windows detected a homegroup on your network. With a homegroup, you can share files and printers with other computers running Windows 7. You can also stream media to devices. The homegroup is protected with a password, and you'll always be able to choose what you share with the group.
	Tell me more about homegroups
	Join now

3. Select what you want to share with the Homegroup. We recommend sharing only **Documents.** Click **Next**.

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- Only the computer that is sharing the back-end database needs to share **Documents**. The other computers do not have to share anything.
- This means that any files that are in the folder **Documents** will be shared to the other computers within the Homegroup

### Share with other home computers running Windows 7

Windows detected a homegroup on your network. With a homegroup, you can share files and printers with other computers running Windows 7. You can also stream media to devices.

Tell me more about homegroups

Select what you want to share:

Pictures	Documents	
Music	Printers	
Videos		
		Next Cancel

4. Enter the Homegroup password. Click **Next** 

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# Type the homegroup password

A password helps prevent unauthorized access to homegroup files and printers. You can get the password from the person who set up your homegroup.

Where can I find the homegroup password?





5. A confirmation message will appear Click **Finish** 

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6. Under the **Homegroup** tab in **Windows Explorer**, you can now see all computers that are currently connected to the **Homegroup** 



7. Once you click on one, you can view the files currently being shared by that computer with the Homegroup

#### Sharing the back-end database file:

1. Right-click on **Documents** folder and click on **Share with -> Homegroup (Read/Write)** 

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- This will ensure that all the files in this folder can be viewed and modified by other members of the homegroup.
- If there are certain files that you do not want to share, click on **Share with -> Nobody.**

Favorites Box Sync	Documents library Includes: 2 locations	Arrange by: Folder 🔻			
Desktop     Downloads     Macent Places	Name Banking Commission Database Local De Bluetooth Folder Bluetooth Folder	Date modified 7/18/2016 4:15 PM 6/21/2016 6:48 PM 7/18/2016 12:30 AM	Type File folder File folder File folder	Size	
Documents     Music     Pictures	Microsoft Access 2013 Tutorial - 3 Hours     Expand     Open in new window	7/16/2016 1:14 AM	MP4 Video	623,615 KB	
<ul> <li>▶ Videos</li> <li>₩ Homegroup</li> <li>₩ Computer</li> <li>₩ OS (C:)</li> <li>&gt; ■ DR IT (E:)</li> </ul>	Share with A N Don't show in navigation pane H Scan H				
	Send to SF Copy	ecific people			
📼 TOSHIBA EXT (I	Delete Rename				
IN BACKUP-PC	New   Properties				

- 2. Create a folder called **Banking Commission Database** in the **Documents** folder, if it does not exist already
  - This will be the location for files to share with the homegroup
- 3. Right-click on **Banking Commission Database** and click on **Share with -> Homegroup** (Read/Write)
  - This will ensure that all the files in this folder can be viewed and modified by other members of the Homegroup



- 4. Move the back-end database file into the **Banking Commission Database** folder.
- Right-click on the back-end database file and click on Share with -> Homegroup (Read/Write)
- 6. The files can now be viewed and modified by others members of the Homegroup

#### Where to find the back-end database files for other users:

- 1. Under the Homegroup tab in the windows Explorer, you can see all of the computers that are currently connected to the Homegroup
- 2. Navigate to the back-end database file BCDC Copy\_be, which is located in the Banking Commission Database folder
- 3. Now you can link the front-end to this back-end database file.
  - In order to access the back-end database file, the computer that is sharing it **MUST** be **ON** and connected to the **Homegroup**
  - In order to modify the contest of the database (update tables, input new data, etc), the back-end database file **MUST** be shared with **read/write** access to the **Homegroup**
# Appendix H.

#### Linking an Access database:

Now that the database is split each user has a copy of the front-end database file. We need to link that front-end database file to the back-end database in order to access/edit the data tables.

- 1. Open the front-end database file.
- 2. Under the Database Tools tab, in the Database Tools group, click Linked Table Manager.

	🔓 47 + (24 + ) =	FIU - Ba	nking Commision		100	_	
	Home Create External Data	Database Tools					C
Visual Basic	Run Macro         Create Shortcut Menu from Macro         Tonvert Form's Macros to Visual Basic	Relationships Relationships	Database Documenter	SQL Access Server Database	Linked Table Manager	Switchboard Manager E Encrypt with Password Add-ins *	Make ACCDE
	Macro	Show/Hide	Analyze	Move Data	-	Database Tools	

- 3. Click **Select All** in order to relink all of the data tables. In order to choose the location of the back-end database, click the checkbox for **Always prompt for new location**.
  - If you want to relink only a single table, then click only on that table's selection box

	ОК
CTRs (C:\Users\Backup\Documents\Banking Commission Database\BCDB - Copy_be.accdb)	
SARs (C:\Users\Backup\Documents\Banking Commission Database\BCDB - Copy_be.accdb)	Cancel
	<u>S</u> elect All
	Deselect All
III. A	

4. Click **OK**.

elect the linked tables to be updated:	se\BCDB - Copy_be.accdb)	ĸ
PersonInTransaction (C:\Users\Backup\Documents\Banking Communication) SARs (C:\Users\Backup\Documents\Banking Commission Databa	nission Database\BCDB - Co se\BCDB - Copy_be.accdb)	icel
	Selec	t All
	Desele	ect All
(		

## 5. Navigate to the location of the back-end database file and select it. Click **Open.**

↓ ↓ Librarie	s      Documents      My Documents      Ban	king Commission Database		<b>▼</b> <del>\$</del> <del>9</del>	Search Banking Cor	mmission D
Organize 🔻 🛛 New fol	der				855	- 🔳 🤅
Microsoft Office A	Banking Commission Database				Arrange by:	Folder 🔻
7 Favorites	Name	Date modified	Туре	Size		
Box Sync	🔁 BCDB - Copy_be	7/18/2016 5:51 PM	Microsoft Office A	436 Ki	В	
Downloads						
Recent Places						
Libraries						
Libraries						
Libraries Documents						
<ul> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> </ul>						
<ul> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> </ul>						
Libraries Documents Music Pictures Videos Homegroup						
Libraries Documents Music Pictures Videos Homegroup Computer						
<ul> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Homegroup</li> <li>Computer</li> </ul>	name: BCDB - Copy_be			•	Microsoft Access	

- 6. The front-end database is now linked to the back-end database.
  - This allows the user to be able to use any forms, queries, or reports in the front-end database that are associated with the back-end database data tables.

⇒⊞ Ст	Rs (C:\Users\Backup\Documents\Banking Commission Database\BCDB - Copy_be.accdb)	ОК
or per or per or per or per sA	sonInTransaction (C:\Users\Backup\Documents\Banking Commission Database\BCDB - Co Rs (C:\Users\Backup\Documents\Banking Commission Database\BCDB - Copy_be.accdb)	Close
	Linked Table Manager	Select All
	All selected linked tables were successfully refreshed.	Deselect All

# Appendix I.

#### **2GB Access Database Size Limits:**

Microsoft Access has a size limit of 2GB for databases files. In order to avoid running into issues with the size limit, a good practice is to split the database into a front-end and back-end, as it was detailed previously. Additionally, it is a best practice to compact and repair the Microsoft Access database after use. As the database grows in size (more records being imported/typed), Access keeps temporary files and deleted data behind the scenes. In order to free up this space, we need to compact and repair the database.

#### Automatically Compacting and Repairing the database:

The following steps should be repeated for the back-end and front-end database file if the database has been already splitted

- 1. Open the Microsoft Access database
- 2. On the File tab, click Access Options

	BCDB - Copy_be : Database (Access 2007) - Microsoft Access
Barant Documents	
New 1) SCDB - Copy be	
2 (Users/Backup)Database (front end) 3 (Users/Backup)Database (stop)Database	
Δave         Δusers/Backup\Desktop\BCDB - Copy           Σave         Σ Fr\BCDB	
Save As € \\BCDB - Copy Z \\BCDB	
Information System/Grphsm97       Print       9 \Users\Backup\Desktop\BCDB	
Manage >	
0 E-mail	
Publish >	
Close Database	
Access Options X Exit Access	
•	
Peady	Num Lother and
Lund	item took

 In the Access options dialog box, click Current Database. Then check the option Compact on Close Click OK



4. From now on, each time you close the database, Microsoft Access will automatically compact and repair the database.

#### Note:

If the database is approaching the 2GB database size limit, the next best practice is to split each data table into its own file and relink the database. With this setting, now each table can be up to 2GB whereas before, the sum of all tables could only add up to 2GB. However, this scenario is unlikely since each CTR and SAR only represent one record in the tables. Unless the number of reports filed grows dramatically there will be no immediate need of performing this configuration.

# Moving Each Table to Own File and Relinking:

- 1. Create a new Blank Database in Microsoft Access
- 2. Under the External Data tab, in the Import group, click Access

		Table Tools test : D	atabase (Access 2007)	) - Microsoft Access	
Home Create Extern	nal Data Database Tools	Datasheet			0
Saved Access Excel SharePoint Import	XML File More * Saved Exports	SharePoint List Export	Create Manage E-mail Replies Collect Data	Work Synchronize Online SharePoint Lists	Move to SharePoint
All Tables 🔍 «	Table1				×
Table1	ID - Add	Vew Field			
₩ Table1 : Table	* (New)				
Detectory	Record: I → 1 of 1 →	🕨 🕫 🕱 No Filter 🛛 Se	arch		
Datasheet View					Num Lock 🔃 🕍 🛒

- 3. Select the back-end database file to import the table from using **Browse** ...
- 4. Select Import tables, queries, forms, reports, macros, and modules into the current database. Click OK

et External Data - Access Database	<u>१</u> ×
Select the source and destination of the data	
Specify the source of the data.	
Eile name: C:\Users\Backup\Documents\Banking Commission Database\BCDB - Co	py_be.accdb
Specify how and where you want to store the data in the current database.	
Import tables, queries, forms, reports, macros, and modules into the If the specified object does not exist, Access will create it. If the specified object name of the imported object. Changes made to source objects (including data in the imported object.)	e current database. ct already exists, Access will append a number to the n tables) will not be reflected in the current database.
Link to the data source by creating a linked table. Access will create a table that will maintain a link to the source data. Changes m	nade to the data in Access will be reflected in the
source and vice versa. NOTE: If the source database requires a password, the	e password will be stored with the linked table.

5. Select the table to import and click **OK** 

ables	Queries	Forms	Reports	Macros	Modules	]	
CTRs							ОК
SARS	intransac	uon					Cancel
							Select All
							Deselect All
							Options >>

- 6. When the confirmation message appears, click Close
- 7. The database has now the imported table. Repeat steps 1-7 for each table in the back-end database file
- 8. Relink each table (that now are independent database files) with the front-end database.

# Appendix J.

#### **Encrypting/Decrypting an Access Database**

In order to ensure the security of the Microsoft Access database, it is necessary to encrypt it. Essentially, this means protecting the database with a password; meaning that if someone does not have the password, they cannot use the database or see its contents.

1. Open the database file in Exclusive mode



2. Under Database Tools tab, in the Database Tools group, click Encrypt with Password

ſ	C			Same Spring	BCDB - Copy_be : Databa	ase (Access 2007) - Microsof	t Access		
	Hor	ne Create	External Data	Database T	Tools			6	٢
	Visual Basic	un Macro reate Shortcut M convert Macros to	lenu from Macro o Visual Basic	Relationships	Property Sheet	Database Documenter Analyze Performance Analyze Table	SQL Access Server Database	Switchboard Manager	
		Macro			Show/Hide	Analyze	Move Data	Database Tools	

- 3. Enter the new password
  - Use a strong password by combining uppercase and lowercase letters, numbers, symbols, and at least 8 characters in length
  - Strong password example: a90!\_%bD
  - Weak password: bankcomm2016
  - Write down the password and store it somewhere secure, until it is memorized. **DO NOT** store the password on the same computer that has the database
  - If you **FORGET/LOSE** the password, the database **CAN NO LONGER** be accessed. Then click **OK**

et Database Password	? ×
Password:	
*******	
Verify:	
******	
ОК	Cancel

4. From now on, every time you open the database you will be required to enter in the password



If you need to decrypt the database, such as to change the password, under the Database Tools tab, in the Database Tools group, click Decrypt Database
 Note: In order to decrypt the database, the database file should be open in Exclusive mode (step 1)

Ca 9 - (* -) =	BCDB - Copy_be : Databa	ase (Access 2007) - Microsoft	t Access	
Home Create External Data	Database Tools			Ø
Visual Basic	Relationships	<ul> <li>Database Documenter</li> <li>Analyze Performance</li> <li>Analyze Table</li> </ul>	SQL Access Server Database	Linked Table Manager
Macro	Show/Hide	Analyze	Move Data	Database Tools

- 6. Enter in the current password and click **OK** 
  - The database is no longer encrypted and can be opened without the previous password

### **Encrypting a split Access Database**

- 1. Encrypt the back-end database
- 2. Open the front-end database and delete the linked tables (the ones with the arrowhead in front of the icon)
- 3. Under the External Data tab, in the Import group, click Access



- 4. Select the back-end database file to import the table from using **Browse** ...
- 5. Select Link to the data source by creating a linked table. Click OK and enter the password of the back-end database file

Get External Data - Access Database	? ×
Select the source and destination of the data	
Specify the source of the data.	
Eile name: C:\Users\Backup\Documents\	Browse
Specify how and where you want to store the data in the current database.	
If the specified object does not exist, Access will create it. If the specified object already exists, Access will append a name of the imported object. Changes made to source objects (including data in tables) will not be reflected in the cur	number to the rent database.
Link to the data source by creating a linked table. Access will create a table that will maintain a link to the source data. Changes made to the data in Access will be reflect source and vice versa. NOTE: If the source database requires a password, the password will be stored with the linker.	ted in the: d table.
ОК	Cancel

6. Click on **Select All** and then **OK** 



7. Open the front-end database in **Exclusive** mode and proceed to encrypt it. A different password can be used for the front-end

## Appendix K.

#### **Import CSV Files into Access Database**

Once the CSV files are downloaded onto the user's computer, they **MUST** be imported into the database.

Note: They MUST be imported directly into the BACK-END database file, NOT the front-end database copy.

1. Under the External Data tab, in the Import group, click Text File



2. Click Browse...



- 3. Navigate to the location of the CSV file and select it. Click Open
- 4. Choose **Append a copy of the record of the table** and then select the table from the dropdown list that matches the CSV file (i.e. a CSV file with CTR information should be appended with the CTRs table). Click **OK**

Note: If "Import the source data into a row table in the current database" (default choice) is selected by mistake, ALL previous data of the matching table will be OVERWRITTEN.

: External Data - Text File	8
Select the source and destination of the data	
Specify the source of the data.	
Eile name: C:\Users\Backup\Downloads\CTR CTR FILE 07202016.csv	Browse
Specify how and where you want to store the data in the current database.	
Import the source data into a new table in the current database.	
If the specified table does not exist, Access will create it. If the specified table already exists, with the imported data. Changes made to the source data will not be reflected in the database	Access might overwrite its contents e.
Append a copy of the records to the table: CTRs	-
If the specified table exists, Access will add the records to the table. If the table does not exis to the source data will not be reflected in the database.	st, Access will create it. Changes made
Link to the data source by creating a linked table.	
Access will create a table that will maintain a link to the source data. You cannot change or del However, you can add new records.	lete data that is linked to a text file.

5. Choose Delimited - Characters such as comma or tab separate each field. Click Next

Delimited - Characters su	h as comma or tab separate each fi	eld	
Hixed Width - Helds are a	ligned in columns with spaces betwe	en each held	
ole data from file: C:\USERS\B	ACKUP\DOWNLOADS\CTR CTR FILE	07202016.CSV.	
CTRID, dateOfTransa	stion, cashDirection, c	ashAmount , accountNumbers	,typeOfFinancialInsti
2.CTRB160014400043	7/20/2016, Deposit, "\$1	2,665.00 ","105005094, 20	5309881", Depository
2.CIRB160014400040	7/20/2016, Withdrawal,	"\$10,059.00 ",105035357,D	epository institution
2.CIKB160014400055	7/20/2016, Deposit, "\$1	1,200.00 ",205239441,Depo	sitory Institution, Ba
2.CIKB160014400079	7/20/2016, Deposit, "\$1	9,068.00 ",105065600,Depo	sitory Institution, Ba
2.CIKB160014400044	7/20/2016, Withdrawal,	-\$30,000.00 ",105052934,D	epository institution
2.CIKB160014400041	7/20/2016 Deposit, "\$2	0,551.00 ",105035515,Dep0	sitory institution, Ba
2.CIRDIGUUI44000/1	7/20/2016 Deposit, "\$2	1 442 00 ",103036964,Depo	sitory Institution, Ba
2.CIKB1600144000/2	7/20/2016, Deposit, "\$1	1,445.00 ",121040968,Depo	SILOTY INSTITUTION, Ba
2.CIRD100014400046	7/20/2016 Withdrawal	"C15 000 00 " 205202024 D	30223/3, 103043238, 1
	VIZU ZUEN WITHOTAWAL	"\$15,000.00 ",205302924,D	PODSICOTY INSCICUTION

6. Select **Comma** as the delimiter to separate the fields. Also, select **First Row Contains Field Names**. Finally, select double quotes " as the **Text Qualifier**. Click **Next**.

Choose the delimiter that	senarates your fields:					
	lon <u>© C</u> omma	Space <u>O</u> ther	:			
First <u>R</u> ow Contains Field	Names	Text <u>Q</u> ualifier:				
		_				
TRID	dateOfTransaction	cashDirection	cashAmount	accountNum	bers	
CTRB160014400043	7/20/2016	Deposit	\$12,665.00	105005094,	205309881	
CTRB160014400040	7/20/2016	Withdrawal	\$10,059.00	105035357		1
CTRB160014400055	7/20/2016	Deposit	\$11,200.00	205239441		-
CTRB160014400079	7/20/2016	Deposit	\$19,068.00	105065600		
CTRB160014400044	7/20/2016	Withdrawal	\$30,000.00	105052934		
CTRB160014400041	7/20/2016	Deposit	\$26,531.00	105035515		
CTRB160014400071	7/20/2016	Deposit	\$25,770.00	105038984		
CTRB160014400072	7/20/2016	Deposit	\$11,443.00	121040968		
CTRB160014400046	7/20/2016	Deposit	\$23,460.00	105003623,	105022973,	10
CTRB160014400076	7/20/2016	Withdrawal	\$15,000.00	205302924		

#### 7. Click Finish

Import Text Wizard		23
<b>NS</b>	That's all the information the wizard needs to import your data.	
	Import to Table:	
· · · ·	CTRs	
1 de la companya de l		
11148		
	I would like a wizard to analyze my table after importing the data.	
Ad <u>v</u> anced	Cancel < <u>B</u> ack <u>N</u> ext > <u>Finish</u>	

#### 8. Click Close



# Appendix L. Website Cost Decision Diagram

	Website Builder	Domain	Email	Total cost for 36 months
WordPress	\$ 99/year	Included	Does not included - Can use Zoho	\$ 297
GoDaddy	\$ 3.99/month	Included	Included 1 free for the first 12 months	\$ 143.64
BlueHost	\$ 3.95/month	Included	Included 5 with 100MB each	\$ 142.20
SiteGround	\$ 3.95/month	Included	Unlimited email accounts. Shared 1000MB	\$ 142.20

## Appendix M.

### Website Domain Name, Hosting, and Email

Bluehost - Domain registration, website hosting service, and email Domain Name: rmibankingcomm.org Associated Cost: \$142.20/3 years

GoDaddy - Domain registration Domain Name: rmifiu.org Associated Cost: \$12.17/year

Zoho Mail - Email Associated Cost: Free, for up to 10 users

The following instructions were followed to link the rmifiu.org domain and Zoho Mail: <u>https://www.zoho.com/mail/help/adminconsole/godaddy.html</u>

#### **Common Email Tasks:**

#### To add emails\*:

\*Note: Zoho free email plan has only 10 emails and Bluehost email only 5

Zoho Mail

- 1. Go to https://www.zoho.com/mail/login.html
- 2. Log in using your email and password (must be logging in as <u>administration@rmifiu.org</u>)
- 3. Hover over 'Control Panel' in the upper right corner until a drop down appears
- 4. Click on Mail & Docs
- 5. Click on User Details in the sidebar on the left
- 6. Click on 'Add User' in the menu bar along the top
- 7. Fill out the necessary information in the form

#### Bluehost

- 1. Go to https://my.bluehost.com/web-hosting/cplogin
- 2. Log in using your email and password (must be logging in as rmibankingcomm.org)
- 3. In the 'email' section, click 'Email Manager'
- 4. Under the 'email accounts' tab, click on 'create an email account'
- 5. Fill out the necessary information in the form

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# Appendix N.

### **Email Encryption using Outlook or Thunderbird:**

To protect sensitive information, it is important that any email that you want to stay private is encrypted. To do this, it is recommended you use Outlook to encrypt and decrypt your messages. The following information is to help the Banking Commission and its financial entities set up and encrypt messages.

# 1. Getting a Digital Id

You must have a digital signature to sign every email you want to send encrypted. There are various sites, such as Comodo, that will give you are free email certificate. Ensure that you go to this site on Internet Explorer or Mozilla Firefox <u>https://www.comodo.com/home/email-security/free-email-certificate.php</u> Follow the instructions to create and install your own security certificate.

# 2. Backing Up Digital Id

You must back up the digital signature somewhere on your computer for safe keeping and to install it into outlook/thunderbird. Follow the instructions here:

https://support.comodo.com/index.php?/Default/Knowledgebase/Article/View/71/18/how-do-i-backup-my-digit al-id-certificate-windows-ie

# 3. Installing and Using your Secure Email Certificate with

# Outlook/Thunderbird

Follow these instructions to install the certificate into your email service provider. \*Note THUNDERBIRD: <u>https://www.comodo.com/support/products/email\_certs/thunderbird.php</u> OUTLOOK: start a new email and under Options, then Security Settings, check "Encrypt message" and "Add digital signature" and it may prompt you to click the document you want to sign with. You will need to import the document saved in the previous step.

# 4. Exchanging Digital Signatures

When a message is encrypted, you need a way to decrypt it. The most common way of encrypting/decrypting messages is through public/private key encryption. A public key can only encrypt a message, not decrypt it. The only way to decrypt a message encrypted with that public key is to use the corresponding private key. This way, you can share your public key with anyone and everyone, and they can encrypt a message to you using your public key. Then you use your private key to decrypt it.

A digital signature includes your private key, and is also an assurance that it is you sending the message (not an imposter) and the contents haven't been messed with. You can think of it like an old fashioned wax seal. To send encrypted messages to each other, you must send your digital signatures to each other, and save the key in your contacts.

You set up your digital signature one of two ways: you can send it on individual messages, or you can include it on all sent messages.

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#### (You can also see these instructions here:

https://support.office.com/en-za/article/Secure-messages-with-a-digital-signature-549ca2f1-a68f-4366-85fa-b3f 4b5856fc6?ui=en-US&rs=en-ZA&ad=ZA)

#### Digitally sign one message

1. When in the message, click the arrow under the 'Options' group



2. click on the 'Security Settings' button

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						Close

3. Click on the checkbox next to 'Add Digital Signature to this message'

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		OK		Cancel

- 4. click 'OK'
- 5. compose and send your message as usual

#### Digitally sign all outgoing messages

- 1. Under the 'Help' Menu click 'Privacy Options'
- 2. In the left side bar of the pop up box, click 'Email security'
- 3. Under Encrypted e-mail, select the Add digital signature to outgoing messages check box.
- 4. If available, you can select one of the following options:
  - a. If you want recipients who don't have S/MIME security to be able to read the message, select the Send clear text signed message when sending signed messages check box. This check box is selected by default.
  - b. To verify that your digital signature is being validated by recipients and to request confirmation that the message was received unaltered, as well as notification telling you who opened the message and when it was opened, select the Request S/MIME receipt for all S/MIME signed messages check box. When you send a message with an S/MIME return receipt request, this verification information is returned as a message sent to your Inbox.
- 5. Click OK.

#### Updating a contact to include their digital signature

- 1. Right click on the email address in the header of the email
- 2. Click on 'Update Contact'

## Encrypting a Message

You have two options for encrypting messages, either encrypt them one at a time, or encrypt all outgoing messages. You can also read these steps here:

https://support.office.com/en-za/article/Encrypt-e-mail-messages-84d7e382-5f76-4d71-8705-324489b710a2

#### **Encrypting a single message**

1. When in the message, click the arrow under the 'Options' group

Go	Inbox in investigator@palaufiu.org - Microsoft Outlook Untitled - Message (HTML) - P X	Type a ques
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2. click on the 'Security Settings' button

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						Close

3. Click on the checkbox next to 'Encrypt message contents and attachments'

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- 4. click 'OK'
- 5. compose and send your message as usual

### Encrypting all outgoing messages

- 1. On the Help menu, click privacy options, and then click E-mail Security.
- 2. Under Encrypted e-mail, select the Encrypt contents and attachments for outgoing messages check box.
- 3. Click OK.