

St Maarten

St Maarten Digital Gov Transformation

Information Communication Technology Assessment

February 2020



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Acronyms

AFIS	Automated Fingerprint Identification System
AIMS	Advance Information Management System
CRM	Customer Relationship Management
DGTP	Digital Government Transformation Project
ETL	Extract-Transform-load
ICT	Information and Communications Technology
ISRS	Integrated Social Registry System
LAC	Latin America and the Caribbean
Mbps	Megabits per second
MGA	Ministry of General Affairs
SXM	Sint Maarten
TEATT	Ministry of Tourism, Economic Affairs, Transport & Telecommunication Public Service Center
UIN	Unique Identification Number
VROMI	Ministry of Public Housing, Environment, Spatial Development and Infrastructure
VSA	Ministry of Health, Social Development and Labor

Acknowledgements

1. This Information Communication Technology (ICT) Assessment forms part of the Bank Executed Trust Fund portion of the Sint Maarten Digital Government Transformation Project. The assessment supports the Government of Sint Maarten in creating the enabling environment for digital transformation and preparing the groundwork for the ICT and system upgrade investments that will be done under the Recipient-Executed portion of the Sint Maarten Digital Government Transformation Project.

2. The ICT Assessment is a deliverable under Pillar 2 of the Project, Digital Platforms, this pillar aims to put in place the necessary technological infrastructure to facilitate the Government's digital transformation with a focus on the following:

- a. Digital payments;
- b. System resilience; and
- c. IT system interoperability & data sharing

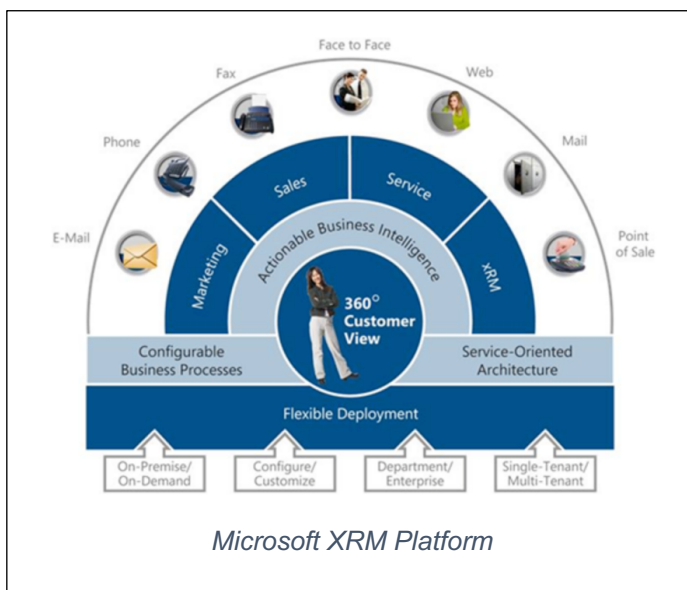
3. The ICT Assessment was prepared by Jerry Henzel (Consultant) in collaboration with Joanna Watkins, (Task Team Leader, Senior Public Sector Specialist) and Raman Krishnan, (Co-Task Team Leader, (Senior Digital Development Specialist). The assessment was conducted in close coordination with the Ministry of General Affairs, ICT Department. The team is grateful for the support of the Project's Focal Points, Emilia Connor-Thomas, (Head of the Public Service Center), Michael Dijkhoffz, (Head of ICT), Femi Badejo (System/Network Administrator) and the kind cooperation of the stakeholders from the Ministries, Departments and Agencies.

Overview

2. **A systematic Information and Communication Technology (ICT) inventory was performed to gather detailed information on the nature and state of systems within the Government of Sint Maarten.** The inventory was largely completed with the exception of systems within the scope of the Ministry of Justice. The Ministry of Justice operates separately and distinctly from the ICT Department and details from the Ministry of Justice are pending. Of the remaining systems, the inventory showed many aging systems that are operating in silos and in need of update or replacement. A few were commissioned back in the 1990s. Many processes are manual and make use of Excel. In other cases, e.g. accounting, Ministries are allowed to use whatever they desire, e.g. QuickBooks, Excel, etc. resulting in a patchwork of systems. Many public financial management tasks such as budget preparation is manual with a mixture of Excel usage.

3. **The inventory also reveals an initiative within the government to build new systems on the Microsoft Dynamics CRM platform.** Five ministries have rolled out systems based on Dynamics CRM and the new Integrated Social Registry System will also use this platform. This work has been done by a local Microsoft partner, Computech.

4. **The Ministry of Finance plans to move to Microsoft Dynamics Nav to replace aging systems.** *Dynamics Nav* is intended to assist with finance, manufacturing, customer relationship management, supply chains, analytics and electronic commerce. The ICT Department noted that there was discussion on using Dynamics AX initially. After attending a Tax Summit sponsored by the Ministry of Finance where the status of ICT and Finance systems was presented, it is not clear if this is something that is being considered by the ICT Department or if the Ministry of Finance and ICT are working together. Status reports from the Tax Summit indicate that functional requirements have not been developed by Finance; even though they are aware of the shortcomings of their current systems. Hence,



Dynamics Nav has been identified as a preferential software without functional requirements is not clear at this point. There is already heavy use of web applications within the government and use of cloud-based web applications in certain instances. The long-term plans of the government are to move entirely to cloud. This will not be achieved in the immediate future, however. The move to the cloud appears to be influenced by the lack of human resources in the ICT Department.

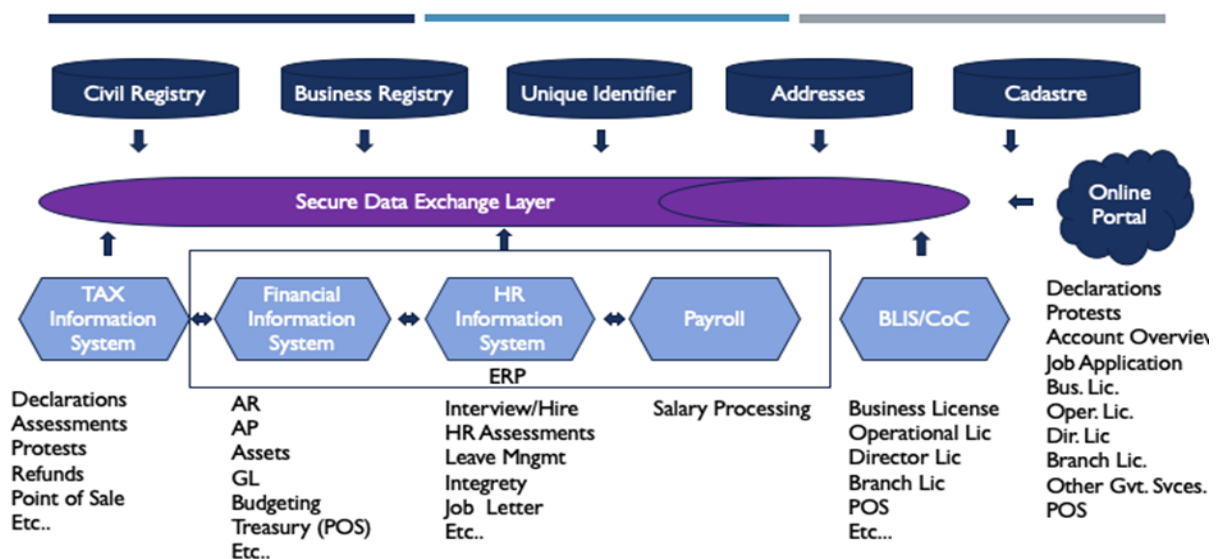
5. **Significant institutional gaps exist that has major impact on sustainability and the ability of the Government to execute the Digital Government Transformation Project (DGTP).** The most pressing amongst these is the mandate and structure of the ICT Department

and its ability to develop the strategic vision for ICT as a foundational supporting element of digital transformation.

6. **The current ICT Department for the Government of Sint Maarten has four staff positions (two of which are vacant) supporting roughly 1,200 public sector employees.** The workload on the Department is very high and additional human resources are needed to address day-to-day demands. As a result, the Department is not able to devote sufficient time to ICT governance issues such as the development of standards, policies and procedures for the secure, efficient and consistent use of ICT across the Government landscape. The Department of ICT is under the Ministry of General Affairs and both the department and ICT issues are not seen as strategic assets or resources for the Government. Given these constraints, the DGTP will support the development of a Digital Transformation function or entity and backstop its development. The management firm will assist the Government in its design and further sustainability.

7. **At present, the ICT Department focuses on dealing with the most pressing strategic issues.** These include lack of data interoperability, fragmented business process, Ministries operating in siloes, lack of business continuity (resilience) and cybersecurity. The ICT Department has developed a strategy based on the concept of a service-oriented architecture that has an interoperability layer at its core through which core registries will be connected with other Ministries and applications (See Figure 1). An online portal will provide a one-stop shop or point of entry for citizens using the data. Internal applications will also have access to critical Government registries to facilitate data flows across the Government and address some of the data sharing, data quality and accessibility issues. The DGTP will help the department to take this proposal from the conceptual phase, and support to design, construct and assemble all the requisite building blocks (digital identification, electronic payment, electronic signature, interoperability framework, etc.) needed to construct facilitate business continuity and address cybersecurity issues. Execution of this strategy will help break down Ministerial data siloes and improve data quality across Government. The DGTP also will address data quality issues in selected key registries as identified.

Figure 1: Visualization of System Integration (source: ICT Department, SXM)



8. **The Government has a unique relationship with the Kingdom of the Netherlands presenting challenges for the ICT department.** The Ministry of General Affairs, owner of the Civil Registry, a key national registry, is impacted by this relationship it must abide to certain standards mandated by the Kingdom of the Netherlands. These include the Paspomaat which the Civil Registry uses for managing passport requests and management. The Ministry must also meet minimum standards for any Civil Registry replacement systems. In addition, The Ministry of Justice operates on an almost independent basis and runs and maintains its own systems outside the ICT Department, causing both friction and makes development of a whole-of-government ICT strategy more challenging. The DGTP will involve the Ministry of Justice in the whole-of-government enterprise architecture process.

Cross-Cutting Platforms & Legacy Systems

Foundational Issues & Context

9. **Gaps exist in some pre-requisites needed for Sint Maarten to fully participate in and execute its digital transformation vision.** A core DGTP intervention is the development of cross-cutting digital platforms that will form the key building blocks for transformation. Underlying these are a strong network and communications, business continuity and cybersecurity capacity. Below is a brief description of the existing foundational building blocks.

10. **Data Center - The main Government data center is located in the main Government building.** It is described as being a Tier II data center; which should have 99.741 percent availability with redundant capabilities. The data center has fire suppression and cooling but lacks security cameras or other physical security other than a locked door. It is a multi-rack data center. Uninterruptible power supplies are available with approximately 2-4 hours of runtime per ICT staff and are rated at 60 kVA with subsequent fail-over to generators. Security devices, network-attached storage, and servers are available in the data center.

Photos of the Data Center



11. **Information Security – The government lacks ICT security policies hampering its ability to respond to several recent serious cyberattacks and ransomware issues.** The ICT department upgraded their anti-virus software and introduced the use of several enterprise-level firewall devices that include stateful packet inspection for security. The Department has reworked its security fabric to include sandboxes, perimeter security and endpoint protection. These are at various stages of development. To date, web application firewalls

and email log inspection software and virus/spam protection for the on-premise email server have been installed. Phase 2 will include sand boxing applications and endpoint management. The intrusion detection system(s) and other types of security-based monitoring alerts appears to come primarily from hardware security appliances. Some of the service vendors to the Government provide some monitoring, but the human resource capacity of the ICT department is not sufficient to respond to the volume. Lastly, the Unique Identification Number (UIN) used by the Civil Registry is insecure and easily discoverable, rendering it extremely vulnerable to identity theft and cybercriminal activity. The UIN is reused on the National ID Card and Driver's making it a prime target for identity theft.

12. Resilience – Business continuity is not well organized and systematic across the Government. The Government is attempting to address this issue by looking at prototypes to mirror systems to the Cloud. The current data center in the Government is sufficient for both current and future Government needs but is not sufficient for business continuity and resilience. As agreed with Government, the DGTP will focus on a Cloud-First approach using cloud-native technologies to mirror critical systems and registries to the cloud for resilience purposes and to hasten a move to the cloud in the long-term. All new applications financed under the DGTP will be built on the cloud.

Interoperability Context

13. The main Government registries and systems across key ministries has been analyzed. The analysis was designed to determine the state of these systems and to better understand interoperability, structural gaps and issues. An overarching challenge is the lack of data sharing across Government. Below is a brief synopsis of the findings.

14. Civil Registry – The Ministry of General Affairs (MGA) is a key stakeholder in the Government's strategic plan. The key core registry in MGA is the Civil Registry which runs on a 23-year-old software. The plans to move away from Oracle data base software to better meet Netherlands requirements. As a constituent country in the Kingdom of the Netherlands there are only four approved vendors for replacement, and the ICT Department is investigating options to use Microsoft Dynamics CRM in lieu of software from the four vendors. The Civil Registry needs to interface with practically every other Ministry, but many ministries currently do not have access. A key interface is not a real-time web-based service and uses extract-transform-load (ETL) which results in data being copied from one registry to another and extra work keeping copied data synchronized. Over time addresses have gotten out of sync between the two registries further eroding data quality. The Driver's License system has not been interfaced.

15. The MGA also administers the Customer Relationship Management (CRM) database that manages the relationships and interactions within government, citizens and businesses. The CRM runs on Microsoft Dynamics CRM last updated in 2014. The Ministry plans are to move this data base to the Microsoft cloud and the Dynamics 365 platform. CRM has a web-service connection for the purposes of the Automated Fingerprint Identification System (AFIS) but uses an internal update table and the ETL process to make copies of data from the business license and tax (using a CRIB number) registries. For payment management, MGA uses a module known by its Dutch acronym GEFIS, which is part of a larger financial management system custom developed and commissioned in 2000. It uses client-server technology with 50 internal users and four external users. Currently GEFIS does not interface CRM and tax assessment and data movement between tax and financial systems is manual.

The other major software in use at MGA is DECOS, the official document management system which has around 300 users. For documents to enter the official Government pipeline they must have a registration number assigned by this system. Some ministries do not use this system and use CRM instead causing some internal conflict. The Council of Ministers recently approved the use of Dynamics CRM for internal advice and workflow management in lieu of DECOS.

16. The Ministry of Finance plays an important role in electronic payment and interoperability across Government. Many key systems within the Ministry were commissioned prior to 2000. A key system is a commercial software called Decade, commissioned in 1997 is used for financial management. It interfaces with GEFIS via manual import/export and should (but does not) interface with most other systems that have payment implications. The system is physically located at the Police Headquarters contrary to advise of the ICT Department and internal policy. The backend is based on Oracle 9 technology; which is very old, and for which extended life support ended in 2010. Each Ministry is permitted to use their own accounting solution.

17. The Ministry of Education, Culture, Youth and Sport uses the CRM platform for exam administration and truancy. The Ministry uses DECOS for document management and has a customized Microsoft Access database to manage student scholarships and loans. The Ministry also has an online application portal that should, but does not, interface with either the Taxation and Civil Registries since students have to meet certain criteria to apply. The Council of Ministers just approved the use of Dynamics CRM for internal advice and workflow management in lieu of DECOS.

18. The Ministry of Health, Social Development and Labor (VSA) is in the early stages of planning and developing new “social registry” management information system - the Integrated Social Registry System (ISRS) to organize and analyze raw data pulled from the various social services and programs to support service delivery decisions. The ISRS includes the following modules: 1) registration, 2) information processing, 3) benefits administration, 4) case management, 5) grievance redress, and 6) business intelligence and reporting. This new system is financed outside this DGTP but will provide one of the first use-cases to test the interoperability platform and will use key foundational building blocks enabled by this DGTP - identity, payment, electronic signature.

Legacy Systems Context

19. Numerous legacy systems are deployed throughout the Government that have significant implications on the current business processes inefficiencies and the business process re-engineering efforts. These systems tend to work in siloes and are functionally self-contained and hinders information flow and sharing of data. Key legacy systems are:

20. The primary application platform in use at the Ministry of Public Health, VSA is the same Microsoft Dynamics CRM instance that is used in the MGA. The Dynamics CRM platform (customized by a local vendor) includes modules for document management, human resource management, inventory management, procurement, finance (submitting purchase orders to Finance), inventory management, and service provision for vaccinations. A separate application for labor administration, appears to have been decommissioned with a move planned to Dynamics CRM shortly. It only had two users. The official document management application within VSA is DECOS but is not in widespread use throughout the Ministry. A

separate module, the Advance Information Management System (AIMS), automates the process of advice preparation, processing, auditing and tracking. Any data exchange among the various systems appears to be either import/export or via extract-transform-load mechanisms.

21. **The main application and platform located at the Ministry of Public Housing, Environment, Spatial Development and Infrastructure (VROMI) is the geospatial database upgraded in 2019.** This is a commercial software product supporting 80 internal one external users. This system is located at the main Government Data Centre and does not interface in real-time with any other systems in Government. ArcGIS Portal is used as a front-end technology and allows users to share maps, scenes, apps, and other geographic information with other people within the organization. ArcMap, ArcGIS Pro and QGIS are used as client front end to the ArcGIS backend software.

22. **The primary application platform in use at the Ministry of Tourism, Economic Affairs, Transport & Telecommunication (TEATT) is the same Microsoft Dynamics CRM instance used in MGA.** The two key applications are the Business License Information System that automates the process of delivering Economic Licenses including business, operational, director, branch, bus and taxi licenses and the advice/document management system used to automate the process of advice preparation, processing, auditing and tracking of incoming documents. Separate CRM modules exist for purchase order requisition management, item and service requisition management, and facility inventory management. Management of statistical information is through a custom-built application with 13 internal users using open-source technologies. The Drive Right Testing System application with seven internal users is used by the Inspection department to administer digital driving exams (Civil Registry staff also use this system to schedule exams). The system does not connect in real-time to the Civil Registry. TEATT is also rolling out a mobile business license application via its Economic Licenses Department to allows citizens to upload documents for the initiation of the application process via a mobile device. Under the DGTP, electronic payment and digital identification will be incorporated into this application. The primary form of data transfer within the Ministry appears to be extract-transform-load processes. This results in copies of data being made from database to database and increases workload either attempting to keep data in sync or data that is out of sync within the Ministry.

23. **The analysis of existing and legacy systems highlights how segmented business processes are between ministries suggests that the Government does not have key building block components in place to facilitate a digital transformation.** These are to be addressed under the DGTP. Specifically:

a) Many of the key data registries have data quality issues that need to be addressed before they can be used an authoritative source of data across the Government.

b) Business continuity and system resilience of existing systems are insufficient for the climatic and cybersecurity challenges Sint Maarten faces. The DGTP is taking a Cloud-First / Cloud-Native approach to the development of new systems, mirroring of critical systems to the cloud for continuity and records preservation to address this need. Historical records will be digitized to enable digital preservation in multiple, distinct geographic locations (at the Government Data Centre and in the Cloud).

c) Data interoperability is done via manual copying of data between systems. The data interoperability platform planned under the DGTP is a core foundation to allow data sharing between Ministries and enable the single source of truth principle.

d) The legal basis for electronic payment is not in place which hampers the Government's ability to perform a transaction online end-to-end, i.e. fully including paying for it. The DGTP includes an electronic payment component to address this gap.

e) Digital authorization and authentication for digital transactions are not in place. Each system uses its own mechanisms. The DGTP is proposing a digital identity component to address this gap and will expand on ongoing pilots for electronic signature.

Service Delivery

24. **The operating hours of the Public Service Centers limit citizens ability to access government services.** The Centers are targeted to be a one-stop shop for Citizens to obtain "efficient and effective" services. At the Philipsburg and Simpson Bay locations the Centers are open between 8:30 AM and 3:30 PM Monday to Friday but unavailable between 12 and 1 PM, with the Civil Registry Department closed at both locations on Wednesdays. Currently, the Public Service Center is only open 1,307 hours per year, on average. Since citizens can only access the service through in-person visits to the PSC, services are only available 15 percent of the year. During the COVID-19 emergency, hours are even more curtailed. Adding digital channels will greatly increase the amount of time services are available to the public and bring it closer to the international standard of 99 percent.

25. **Sint Maarten's reliance on analog systems create inefficiencies and long wait times for citizens and businesses.** According to a recent audit report, 68 percent of business licenses in Sint Maarten are processed in 84-126 days, and 16 percent are processed in 168 days or more. While Sint Maarten is not a part of the Doing Business, survey results and benchmarks were considered in the formulation of the indicator. Countries that record 100 days or more for the business license process receive a score of 0 on the "Starting a Business" time dimension and rank in the lowest percentile for Starting a Business. Countries that are within the 40-45 day range receive a score of 50+ and rank between 156-172. While 42 days (6 weeks) can still seem long by global benchmarks, it would be a tremendous improvement for the Sint Maarten's business environment. As shown in table 1, for example, Haiti's processing time measured 97 days in 2020, and ranks 189 in Starting a Business. Comparatively, Fiji and Belize measure at 40 and 48 days and rank 163 and 166, respectively.

Table 1. Doing Business rankings in LAC

LAC Countries	Rank- Starting a business	Score- Starting a business	Score- Time - Men (days)	Time - Men (days)
Jamaica	6	97.4	97.5	3
Panama	51	92.0	94.5	6
Puerto Rico	59	91.2	95.0	5.5
Uruguay	66	89.6	94.0	6.5
St. Lucia	69	89.4	89.4	11
Dominica	71	89.3	88.4	12
Trinidad and Tobago	79	88.6	89.9	10.5
Grenada	89	88.0	88.4	12
St. Vincent and the Grenadines	93	87.0	90.5	10
Bahamas, The	94	87.0	88.9	11.5
Colombia	95	87.0	90.5	10
Guatemala	99	86.8	85.4	15
Barbados	102	86.4	84.4	16
Mexico	107	86.1	92.0	8.4
St. Kitts and Nevis	109	85.9	81.9	18.5
Guyana	111	85.6	82.4	18
Dominican Republic	112	85.4	83.9	16.5
Antigua and Barbuda	130	82.6	81.4	19
Peru	133	82.1	74.4	26
Brazil	138	81.3	83.8	16.6
Argentina	141	80.4	88.9	11.5
Costa Rica	144	79.9	77.4	23
Nicaragua	145	79.6	86.4	14
El Salvador	148	78.6	83.9	16.5
Paraguay	160	76.0	65.3	35
Belize	166	72.0	52.3	48
Honduras	170	71.4	58.3	42
Bolivia	175	69.4	60.8	39.5
Ecuador	177	69.1	51.8	48.5
Suriname	182	61.6	34.2	66
Haiti	189	36.4	3.0	97
Venezuela, RB	190	25	0	230

26. All payments for Government service made be made via the Receiver's Office which requires a citizen to visit another location, queue up, and then return with proof of

payment. During instances when the Office was closed¹, the Receiver made provisions for the public to pay via two local banks (WIB & RBC) via online banking. Cashier's at the Office close at 2:45 PM daily. In the few instances where forms can be downloaded online, citizens still must physically come in to pay for services. These limitations make obtaining a paid service from the Government substantially more difficult than it should be. The DGTP has specifically included an electronic payment component that can be integrated into digital delivery of services to reduce the amount of friction a citizen experiences while obtaining a service.

27. **The main Government building has consumer-grade internet connectivity from the state-owned telecom provider Telem which hinders both service delivery and business continuity.** It is important to stress that this is not enterprise/business-grade and it does not appear that the current provider Telem offers such a level of service. The bandwidth being paid for was 200 Mbps synchronous via consumer-based service to the internet. However, recently the COVID-19 crises caused the Government and the provider to increase the bandwidth by 200 Mbps effectively doubling it. This should help with both business continuity and digital service delivery.

28. **The 23 Government buildings across all seven ministries do not have wired internet connectivity, thereby impacting the ability to share data in real time and hampering service delivery.** The Government has developed a separate microwave-based wireless network with the service provider Netstar. Netstar provides monitoring and alerting services and has a service level agreement with the Government. The Government indicates that the connectivity is relatively stable, anecdotally speaking. The Government has built out a hub and spoke topology network that wirelessly connects the 23 buildings plus the main Government building. The latter has both wired and wireless connectivity; wireless is used as a form of redundancy.

29. **To improve the above, the Government is currently investigating bids from both telecom providers to build a fiber-based Government network.** This network would greatly increase the bandwidth and speed between Ministries and facilitate better real-time data sharing between Ministries. By adding this network, the Government could use the existing 60 Mbps wireless network as a point of redundancy in case the fiber network fails. This will be a key element to address resiliency and ensuring Government continuity while having the added benefit of providing a solid backbone for electronic service delivery.

¹ <http://www.sintmaartengov.org/PressReleases/Pages/Receivers-office-offers-alternative-payment-plans.aspx>

Annex 1: Assessment details

Ministry	Dept.	Key System	Purpose	Vendor/SLA	Commissioned - DeCom'd	# of Users	# Internal Users	# External Users	Cloud-Based (Y=Yes, N=No, N*=ToBe)	Technical Specifications	Interfaces w/ Other Systems	Internet Connectivity	Business Continuity/DR
Ministry of General Affairs		Profit	HR Management System	Afas - Electronic SLA. Generic EULA	2008	40	40	0	Y	Cloud-based. They have to transition. Will do in next 2 months. Still on-premise right now	None. Should interface with payroll and Civil Registry	NA – on premise currently	Cloud-based. ICT has a DR project. For 6 ministries except for Justice. See notes below
		Decos/Join	The document management/advice process management system (used throughout the Ministry)	DECON NL	Was on-premise 2008/2009	~300	300		Y	Cloud-based. Off island. DNS Lookups point to URL being in Netherlands. Department is using old version of IE. Add-ins apparently have some issue that work well with newer browsers.	AIMS (for archiving purposes). Advice Mgmt Info Sys (D365 CRM)	Building 200 mbps/synchronous	Staff and ICT conflict on information. Could not resolve. Likely scenario is that the file server that is at Police station and is backed up there
		MS Dynamics CRM - PO Requisition Management	Automate the process of submitting Purchase order requisitions to Finance	Microsoft. CRM on-premise Same instance for all CRM software	2014 - came from CRM 2011 or 2013.				N*	Running on Server 2012 R2 & SQL Server 2012 Enterprise. Plan is to migrate to Dynamics 365 in the cloud	Has an update table for vendor with business license and Tax for CRIB#. Use ETL for this. Has an interface with AFIS (web service)	NA – on premise currently	
		MS Dynamics CRM - Item and Service Requisition Management	Automate the process of submitting items and services requisition to Facility								Nothing. Not facing external but will need to (see above re tax and vendors)		
		MS Dynamics CRM - FZ Inventory Management	Automate inventory management at Facility Services								None		
		MS Dynamics CRM - FEMIS	Fire department intervention management system								Integration with VROMI for address. ETL table.		
		Qmatic	Used by PSC as the queue management system for front offices	Qmatic - EULA	2018		50			Web application. Window 2016/SQL Server 2012 Lives in Gov't data center	None. LDAP to Domain Controller	Data Centre has 200 mbps connection	
		Lobby	The digital sign-in system for guests used by reception at the Government Administration Building	iLobby - EULA	April/May 2019		9	Unlimited for people who check in 4 from PSC	Y	Ipad app for signin. Commercial. Cloud-based. From Canada	None	Data Centre has 200 mbps connection	Cloud-based.
		Gefis	The payment management system used by PSC for some public services	Custom developed	2000		50 in the receivers office			This is one component from a larger tax collection software. Tax admin has a division under it (receivers) that does tax collection. This is the module from this system that is used to make payments. Does imports and exports from tax and financial systems. Using SQL Server. Client-server.	Interface with CRM via web service. Needs to be interfaced tax assessment. Integrated with IFMIS.	Client-server via LAN	
		Key 2 PIVA Nobo	Used by Civil Registry as their civil registry/database system	Centric No known SLA	About 23 years old but has been upgraded.		40			On premise web server in gov't data center. Has a web server, thick client, web client and database server. Dire need for an upgrade that has been approved. Uses Oracle database (11). Main reason they need to upgrade is for Oracle support. Even with upgrade will not be on the latest version of Oracle. Web server is Windows Server 2003. With Civil Registry there is a lot of involvement from Netherlands. Netherlands dictates that there are 4 standard companies that they can choose for this software. Would like to move away to a customs solutions but need to deal with Kingdom requirements.	Needs to interface with everyone. Has ETL with address database in VROMI. Should have been interfaced with driving exam but is not now. Trying to decide how to do. Justice using a web-based read accessed view by PSC, SIV (social insurance)	At data center. Clients view via web (200 mbps). No one uses thick client	
		Paspomaat	Used by Civil Registry Department for passport management/requests	Handled by Dutch Gov't. Have no insight							Integrated with PIVA		
		Driver's License Registration System	Used by Civil Registry Department for driver's license issuing/management										
		QuickBooks	Used by the financial controller as the financial management system for the	Intuit - Standard EULA						Each controller uses their own method for accounting. No financial management overall			Ad-hoc as per individual in charge

Strategic Initiatives

Please describe your strategic ICT initiatives for the next 3 to 5 years in order of priority that will be used to support your critical mission and business objectives. Please note any obstacles or issues that may need to be addressed.

1. See ICT Plan - Is strategic objectives. Govt has not committed to funding. Ministries have no strategy and do not do priorities. In budget prep the cuts are across the board.

Information Security

1. Are information security concerns addressed / considered during the planning phases of acquisition of new systems, i.e. are information security requirements documented as part of this phase

Handled by ICT. By law should ask ICT for infosec input but not in all cases.

2. Are information security measures taken into consideration during the development of new software, e.g. are code reviews, is security part of functional requirements, is this documented, etc.

For custom developed software no security testing. Basically will handle UAT.

3. Are information security measures taken into consideration during implementation/installation of new systems, e.g. are systems tested to meet documented infosec requirements, are vulnerability scans/penetration tests done, tests for compliance with recognized standards, e.g. PCI, etc.

Not really. No man power

4. Describe any information security measures in place for the monitoring and auditing of systems for security issues as part of operations, e.g. intrusion detection, continuous monitoring and alerting, etc.

Did a rework of security fabric. Sandboxes, perimeter security. Endpoint protection. Spill project. Phase 1- Installation of Forti Analyzer. Fortinet web for web application firewall. FortiEmail for on prem MS Exchange Server. Phase 2 is sandboxing application and endpoint management. Monitoring and alerting in progress. Are discussing user training.

5. What techniques are in place to contain and manage information security incidents (response planning, crisis communications plan, analysis, mitigation, continuous improvement [review and remediate]). Include physical security of data centers, end-user awareness training, etc.

6. What techniques/measures are in place to restore operations after information security incidents (BCP/DR plans, communications plans, etc.)

ICT in design phase of a DR site. Will be cloud-based. Using Azure for DR in this plan. Hope to finish up this plan in next couple of weeks (Jan 2020). Short-staffed to do. Have the design and discussed it but need to put on paper to move forward with it. Critical infrastructure. Since they provide a centralized infrastructure they have to take that into account. Have decided what is "super critical". Have an internal CIP. DR site will be a mirror of what they have inhouse. Have virtualized using Hyper-V. Maybe one or two physical servers (MS Exchange Server at Justice and Drivers License). Have direct connection via telecom from data center. Have a direct fiber from ICT to telecom. Have bandwidth. Data center will increase capacity. Phase 2 will start analyzing what processes they can put in the cloud. Want to cut down on hardware foot print. Need physical manpower to support. Big issue currently. ICT not in right place in gov't org structure. Min of GA - SG of GA - Director of Facility Mgt - Dept of ICT. Need some legal reform.

Ministry	Dept.	Key System	Purpose	Type	Vendor/SLA	Commissioned - DeCom'd	# of Users	# Internal Users	# External Users	Cloud-Based (Y=Yes, N=No, N*=To Be)	Technical Specifications	Interfaces w/ Other Systems	Internet Connectivity	Business Continuity/DR
Ministry of Finance														
		Decos	The document management/advice process management system (used throughout the Ministry)	Document Management	See notes in General Affairs for this system					N				
		Decade	Financial Management System	Financial Management	Commercial from Unit4	1997		10		N	Were considering Microsoft Dynamics 365 AX. Now have plans to move to Microsoft Dynamics 365 Nav. Current system is Oracle backend with client server. Oracle 9 database. Window 2008 server	Interfaces with GEFIS via import/export. Should interface with most other systems that have payment implications. Sitting physically at Police HQ. Was in data center. Was moved contrary to legal requirements as per M of Justice	Clients use VPN to access thick client from their dedicated laptops	
		Cognos	The reporting system used for the financial management system	Financial Management (Reporting)	IBM	1997		10		N	Used to report from Decade financials. Designed an OLAP	NA	Web client	
		Gefis	The payment management system used by the Receiver's office and Tax Administration	Financial Management	Custom developed	2000	N	50 in the receivers office	4 from PSC	N	This is one component from a larger tax collection software. Tax admin has a division under it (receivers) that does tax collection. This is the module from this system that is used to make payments. Does imports and exports from tax and financial systems. Using SQL Server. Client-server.	Interface with CRM via web service. Needs to be interfaced tax assessment. Integrated with IFMIS.	Client-server via LAN	
		Tax Siah	Tax management system (assessment)	Assessment etc.	Custom Build from Bearing Point	circa 1994	N	60		N	SQL Server. Client-server. Virtualized	Import/Export with GEFIS	At Tax office. Runs on internal LAN with replication to data center	Replication to data center
		Claims (Used by Tax office)	Used by the Tax office	Intervention/Project Management										
		Business Objects	Reporting system	Report Generator for GEFIS	Crystal Reports					N	thick client (old)			
		Payroll Pro	Payroll system used by Salary and Wages		Off-the-shelf. Business model is to sell support and implement.	2005		7		N	client-server. Runs on SQL Server 2008.	No integration, Needs to be integrated with HR and FMIS	Data center	
		Taxis	Automate all tax processes including tax processing and tax collection. Reporting of tax Statistics and auditing. (Not fully functional as project was placed on hold as of 2013, however certain functionalities of the system are currently in use)	Payment Management							NOT BEING USED. WAS IMPLEMENTED USING BIZTALK FOR WORKFLOWS			

Strategic Initiatives

Please describe your strategic ICT initiatives for the next 3 to 5 years in order of priority that will be used to support your critical mission and business objectives. Please note any obstacles or issues that may need to be addressed.

1. Update/Replace current tax system
2. Clean polluted database
3. Physical renovation of offices

Information Security

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3. Are information security measures taken into consideration during implementation/installation of new systems, e.g. are systems tested to meet documented infosec requirements, are vulnerability scans/penetration tests done, tests for compliance with recognized standards, e.g. PCI, etc.

4. Describe any information security measures in place for the monitoring and auditing of systems for security issues as part of operations, e.g. intrusion detection, continuous monitoring and alerting, etc.

5. What techniques are in place to contain and manage information security incidents (response planning, crisis communications plan, analysis, mitigation, continuous improvement [review and remediate]). Include physical security of data centers, end-user awareness training, etc.

6. What techniques/measures are in place to restore operations after information security incidents (BCP/DR plans, communications plans, etc.)

7. Describe the network architecture and how it addresses information security, e.g. firewall, DMZ, segregation of concerns, etc.

Ministry	Dept.	Key System	Purpose	Type	Vendor/SLA	Commissioned - DeCom'd	# of Users	# Internal Users	# External Users	Cloud-Based (Y=Yes, N=No, N*=ToBe)	Technical Specifications	Interfaces w/ Other Systems	Internet Connectivity	Business Continuity/DR
Ministry of VSA														
		MS Dynamics CRM – AIMS	The advice/document management system (used to automate the process of advice preparation, processing, auditing and tracking. Incoming documents registration and tracking. Used throughout the Ministry)	Document Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM – SS37	Automate by labor and social affairs processes, including: 1. Financial, Legal, Medical Assistances 2. Employment Permits 3. Labor, Business Registration	Human Resource Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM – ADS	Ambulance's management system for managing Riit, Emergencies and Ambulance rides	Inventory Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM – PO Requisition Management	Automate the process of submitting Purchase order requisitions to Finance	Financial or Procurement Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM – Item and Service Requisition Management	Automate the process of submitting items and services requisition to Facility Services	Financial or Procurement Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM - FZ Inventory	Automate inventory management at Facility Services	Inventory Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM - Medical Applications	Automate the process of managing medical professionals	Human Resource Management	SEE DYNAMICS in GA					N*				
		MS Dynamics CRM - EPI	Manage the processes regarding Vaccinations (Replaced the old application EpiInfo)	Service Provision	SEE DYNAMICS in GA					N*				
		Labor Administration System	Digital collection, management and monitoring of administrative records/cases for labor inspection	Health Inspection Dept	Came for Intl Labor Organization	Re-implemented in 2019. Was used before in a different dept.	2				Moving towards CRM. SQL database. Windows Server 2012 R2. Using SQL Server 2014	None	200 mbps at Data Centre	

Strategic Initiatives

Please describe your strategic ICT initiatives for the next 3 to 5 years in order of priority that will be used to support your critical mission and business objectives. Please note any obstacles or issues that may need to be addressed.

See General Affairs

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See General Affairs

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See General Affairs

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See General Affairs

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Ministry of Education														
		MS Dynamics CRM – LEXX	Used by the department of Exams	Project/Operations Management	See Microsoft Dynamics in General Affairs						Y			
		MS Dynamics CRM – SMART	Used by the Truancy Department	Project/Operations Management	See Microsoft Dynamics in General Affairs						Y			
		Decos	The document management/advice process management system (used throughout the Ministry)	Document Management	See Decos in General Affairs						Y			
		MS Access Database	Microsoft Access database used by Study Financing to manage student scholarships/loans	Service Provision	Custom						N	Now used more for other purposes. Converting to use a PHP front-end. Cannot confirm what they are using us. Application intake was pushed online via a portal		
		Online Application Portal				SEE Ministry - ICT has no info							Should interface with tax and Civil Registry. Need to meet certain criteria to apply for.	

Strategic Initiatives
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See General Affairs

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Ministry of VROMI														
		Esri GIS ArcGIS Server V10.7	Geographic information system that is used by the Ministry	Geographic System	ESRI	2015		80	1	N	Upgraded June 2019 to latest version. Portal for ArcGIS. Geodatabase on SQL Server . Spatial analyst.	None	200 mbp at data center	
		Decos	The document management/advice process management system (used throughout the Ministry)	Document Management						Y				
		ArcMap/ArcGIS Pro/QGIS	GIS Client software	GIS	Open source/ESRI			80	1	N				
		Drone Deploy		For imaging	Commercial					N				

Strategic Initiatives

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See General Affairs

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Ministry of TEATT														
		MS Dynamics CRM – BLIS	Automate the process of delivering Economic Licenses including: - Business, operational, director, branch, bus and taxi license processes. Automate the mobile business inspection processes so inspectorate can more efficiently inspect the compliance of existing businesses. Integrate BLIS with other application on this list where necessary	Service Provision	See Microsoft Dynamics in General Affairs					N*				
		MS Dynamics CRM – AIMS	The advice/document management system (used to automate the process of advice preparation, processing, auditing and tracking, incoming documents registration and tracking. Used throughout the Ministry)	Document Management	See Microsoft Dynamics in General Affairs					N*				
		MS Dynamics CRM - PO Requisition Management	Automate the process of submitting Purchase order requisitions to Finance	Financial or Procurement Management	See Microsoft Dynamics in General Affairs					N*				
		MS Dynamics CRM - Item and Service Requisition Management	Automate the process of submitting items and services requisition to Facility Services	Financial or Procurement Management	See Microsoft Dynamics in General Affairs					N*				
		MS Dynamics CRM - FZ Inventory Management	Automate inventory management at Facility Services	Inventory Management	See Microsoft Dynamics in General Affairs					N*				
		BUSLIC	Used for historical data by the department of Economic Licenses. Has been replaced with Dynamics - BLIS	Inventory Management	Was used before BLIS. Was a business license built in 2006 and migrated to CRM; Use it only for invoicing. Now that there is an integration into GEFIS will be phased out in a couple of weeks									
		STATS	The department of Statistics, record system	Database	Custom		13			N	MySQL Database. Internally created. Web application. Using Windows Server 2016. PHP frontend. IIS frontend. Used by all of stats dept.	None noted		
		Drive Right Testing System	Used by the TEATT Inspection department to administer digital theoretical driving exams	Service Provision	Drive Right - Commercial	2018		7	All people who apply for driving license	N	Used for theory part of driving exam. Web application on MySQL & Windows Server 2016 with IIS web server	Idea was to have an interface with Civil Registry. Have a validation process when signing up for exam. Civil Registry actually schedules exam		
		QuickBooks	Used by the financial controller as the financial management system for the ministry	Financial or Procurement Management	Intuit					N	Each controller uses their own method for accounting. No financial management overall			Per decision of Comptroller

Strategic Initiatives
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See General Affairs

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Ministry of Justice														
		Actpol	Server and software Actpol: Business operations program(for 2 yr)	Project/Operations Management										
		Quick scan Information Processes Border Control		Information Management										
		Telephone Central Dispatch Control and Camera surveillance room.		Project/Operations Management										
		Software and hardware for a digital forensic specialization with, among other things, research possibilities for large objects and a laboratory that meets the requirements for the police laboratory.		Project/Operations Management										
		Software and hardware technology in order to count, monitor and manage traffic on the island.		Project/Operations Management										
		Submit: Program investigation services		Project/Operations Management										
		The Customs department systems	The Customs Dept is planning to acquire and develop a registration system. This system would be used to register and extract data for statistical purposes and control information to determine risks. The generated data should include: import and export of (valuable) goods, seizures, passenger information including copy of ID/ passport, etc. Also a website will be developed with the purpose to inform the general public and Sint Maarten's visitors on law and procedures of the Customs department.	Service Provision										
		Prison IT Infrastructure	"There is a need for a quick scan on the Prison IT infrastructure. The system is outdated and could "crash" at any moment. There is therefore the need of a complete new IT infrastructure (network, telephone system), which includes hardware and software."	Project/Operations Management										
		ACTK18	A digital client registration system which is linked to the ICT database systems at the Sint Maarten Police Force and the Point Blanche Prison. In the future the Alimony section will also be linked to the ACTK18 digital client registration system.	Service Provision										
		Anti-Money laundering Platform	A datacenter, IT hard- & software, Portal applications & anti- money laundering applications and security hard- & software. The above-mentioned products will be used to monitor and report unusual business transactions on Sint Maarten.	Project/Operations Management										

Strategic Initiatives

Please describe your strategic ICT initiatives for the next 3 to 5 years in order of priority that will be used to support your critical mission and business objectives. Please note any obstacles or issues that may need to be addressed. Operate as a standalone non-centralized ministry. Decision taken by former Minister of Justice. Contrary to legal requirements. Not on ICT network at all. Some discussions about coming back on ICT network.

Information Security

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Ministry of Justice													
	Immigration & Border Protection	The Permit System	This system is used to register applicant's and generate an approval or denial of a permit.	Project/Operations Management	Decos Caribbean	Commissioned In the Year 2012	40	40	0 at the moment	Running on Server 2012R2	none	At the moment no	

Strategic Initiatives

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1. The completion of the upgrading of the system. Where we can generate the necessary data & statistics
2. Availability for applicants to apply online, & check if there permit is ready to pickup
3. Go paper less
4. Generate permits on cards instead of paper.
5. Replace the telephone system with a system that can save the government money.

Information Security

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Yes

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Yes

3. Are information security measures taken into consideration during implementation/installation of new systems, e.g. are systems tested to meet documented infosec requirements, are vulnerability scans/penetration tests done, tests for compliance with

Yes

4. Describe any information security measures in place for the monitoring and auditing of systems for security issues as part of operations, e.g. intrusion detection, continuous monitoring and alerting, etc.

A network monitoring system.

Our system has a auditing trail in place to see who did what and when etc.

5. What techniques are in place to contain and manage information security incidents (response planning, crisis communications plan, analysis, mitigation, continuous improvement [review and remediate]). Include physical security of data centers, end-user

Make sure computers anti-virus program are up to date, schedule etc.

6. What techniques/measures are in place to restore operations after information security incidents (BCP/DR plans, communications plans, etc.)

Backups are been made on a daily and weekly basis of the application and data where then it can be restored.

7. Describe the network architecture and how it addresses information security, e.g. firewall, DMZ, segregation of concerns, etc.

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