ccTLD REGISTRY

BERMUDA

Background - ccTLD

- 1993 - **.bm** registration was introduced by the Bermuda Government to encourage local e-commerce between business entities.

- Initially managed by the Bermuda College.

- September 2003 - **.bm** registration transferred to the Registry General – Intellectual Property Department (RG/IPD).

- RG/IPD works in conjunction with the Bermuda Government's Information Technology Office (ITO).

REGISTRY GENERL
INTELLECTUAL PROPERTY DEPARTMENT

MISSION STATEMENT

"The mandate of the Registry General is to provide a timely and efficient service when administering Acts relating to the registration of births, deaths, marriages (including Civil and Maritime marriages), deeds, mortgages, land transfers, other legal documents, trade unions, pension trust funds, charitable organizations, professionals and professional organizations, and to the granting of intellectual property rights, such as trade and service marks, patents and designs and advising o the copyright and related rights, **as well as the registration of country-code top-level domain names.**"

Key Players

- **Top Level Domain Committee – Chaired by a member of the public and consisting of Internet Service Providers**

- **Registry General – Intellectual Property Department**

- **Information Technology Office**

- **The Omni Group**

Current Registry Efforts

Output Measures:

On average, the RG/IPD receives 10 to 20 domain name registration applications per day. The Top Level Domain Register has a total of 4,200 **.bms** registered.

ccTLD Registration Applications

■	New
■	Modifications
□	Noncompliant

20%

50%

30%

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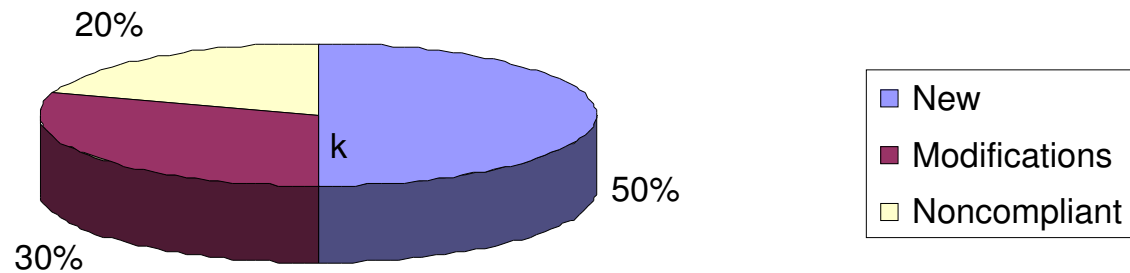
Current Registry Efforts

Output Measures (continued):

- The time it takes to process a domain name varies from five minutes to two days depending on the complexity of the application and whether all relevant information is received .

- The registration process itself varies from 24 to 48 hours.

Current Registry Efforts

Registration Policy

- Free Service to promote e-commerce and e-business.

- RG/IPD bears operational costs of domain name registration.

Current Registry Efforts

Registration Policy (continued)

Registration Agreement:

- Located on the BermudaNic website.

- Introduced by the local Top Level Domain Name Committee.

- Represents a modified version of the Internet standard form.
  - ✓ Concurrently observes standards suitable for Bermuda, which include limiting registrations to local registered charities, local registered companies and other business entities.

Current Registry Efforts

Registration Policy (continued)

Registration Agreement:

- Governed by the laws of United States of America, State of California and Bermuda.

- RG/IPD have reviewed current agreement and drafted an amended version.

Current Registry Efforts

<u>Current Registration Procedure</u>

Application for registration must include:

5. Completed template found on the BermudaNIC website.

7. Written request letter on the applicant's company letterhead.

Current Registry Efforts

The Domain Administrator must:

- Check that the applicant is a local entity
  - If not a local entity check the Bermuda Telephone Directory for local listing or call the signatory for proof of local business presence.

- Record the company registration number or charity number on the application.

- Check to see whether is domain name applied for is already registered by searching the BermudaNIC website.

- Check to see if applicant has a NIC handle.

- Check to see if the Administrator or Technical Contact listed on the application has a NIC handle
  - If not create one.

- Check to see if DNS server information (primary and secondary hostname/IP address) appearing on the application is recorded.
  - If not input information in AS400.

- Add the domain name applied for to the 'Whois Directory'.

Current Registry Efforts

Domain Structure

- Domain Register allows for first-level domains (e.g. esso.bm) and second-level (e.g. badonion.com.bm) to be registered.

- .gov can only be registered by Bermuda Government's Information Technology Office (ITO).

Current Registry Efforts

<u>Registration Requirements</u>

.bm domain names are subject to the following conditions:

- Domain registration is based on a first come, first serve basis therefore the registrant should not rely upon the prospective registration of a domain name before it becomes registered.

- The only valid characters for a domain name are the letters of the alphabet (A-Z), the digits (0-9), and the dash (-). Letter cannot have an accent or be underlined. There is no distinction between capital letters and lower case letters. The first and last character of the domain name cannot be a dash, as well as two or more consecutive characters cannot exist.

Current Registry Efforts

Registration Requirements (continued)

.bm domain names are subject to the following conditions:

▪ There is no restriction on the number of domain names for a registrant. The required minimum length of a domain name is three characters and the maximum length is of 50 characters.

Current Registry Efforts

Registration Requirements (continued)

Under no circumstance will the Registry General IPD register a domain name when this name:

- Is formed by terms or expressions that are offensive, affects the moral or alters public order or is contrary to Bermuda law.

- Makes reference to aspects of official subjects of Bermuda without proper authorization.

- agrees identically and is under the same level with a name already registered in the BermudaNic database.

- is identical to registered trademark in Bermuda and the applicant of the domain name differs from the registrant of the trademark.

Hardware and Software

Infrastructure – Hardware

3. Consists of four servers:
- Three Published DNS – NS1.bm, NS2.bm and NS3.bm.
- AS/400- based management and web RWHOIS system.

4. DNS servers loaded on Sun Sunfire V100 Hardware.

Hardware and Software

Infrastructure – Software

3.   Servers loaded with Bind 9.2 and Solaris 8 Operating system.

5.   Altered default Solaris to reduce security risks significantly.

7.   The two services running on the servers are BIND (DNS) and SSH.

9.   Every other service is blocked by the IPFilter firewall.
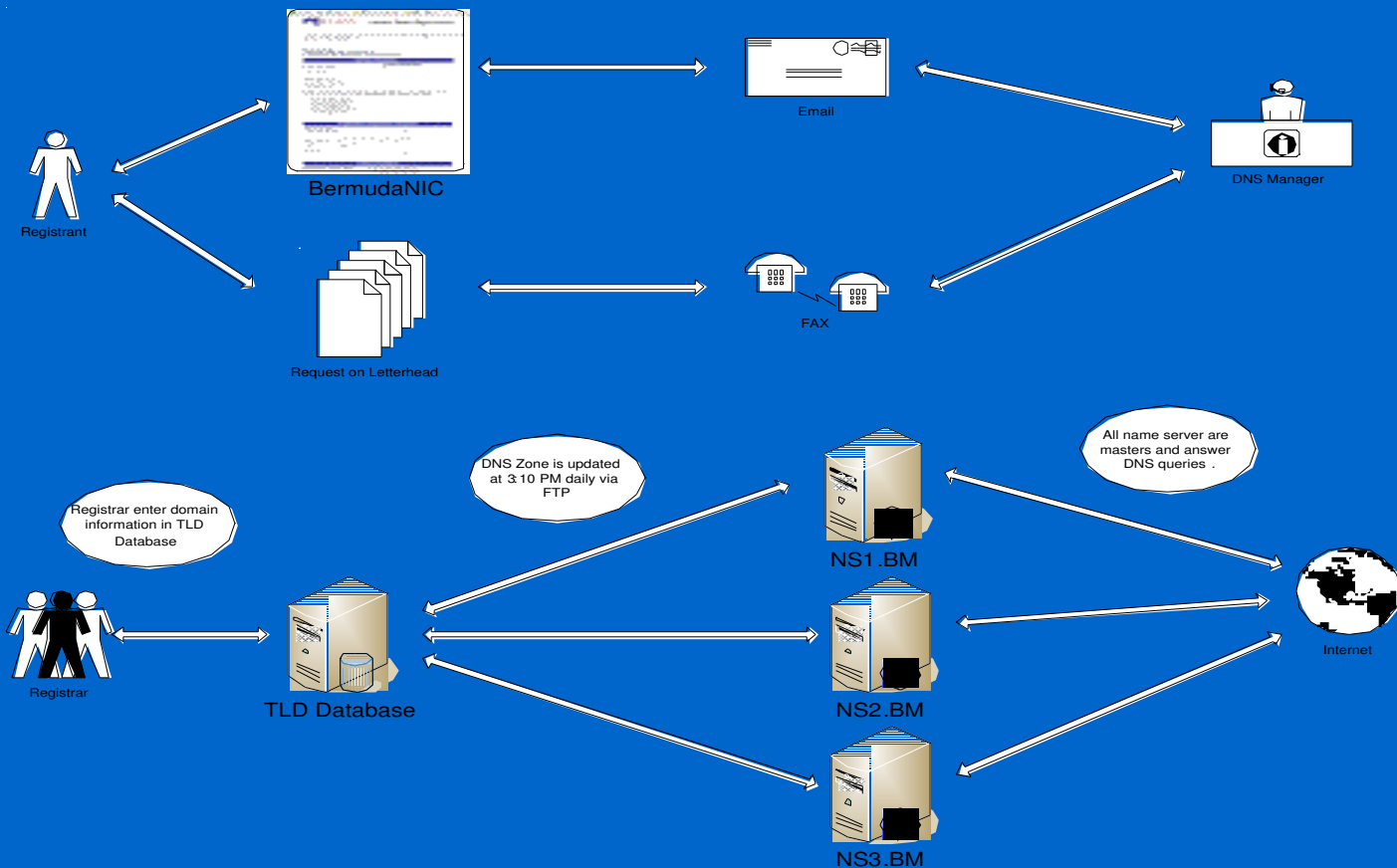
Hardware and Software

IT – Operations

- AS/400- based portion of the system allows users to enter domain registration information into the DB2/400 (or UDB) database.

- Daily at 3:00p.m. the appropriate data for active registrations is combined with Start Authority data to create new zone files for various DNS zones managed by the **.bm** registration.

Hardware and Software
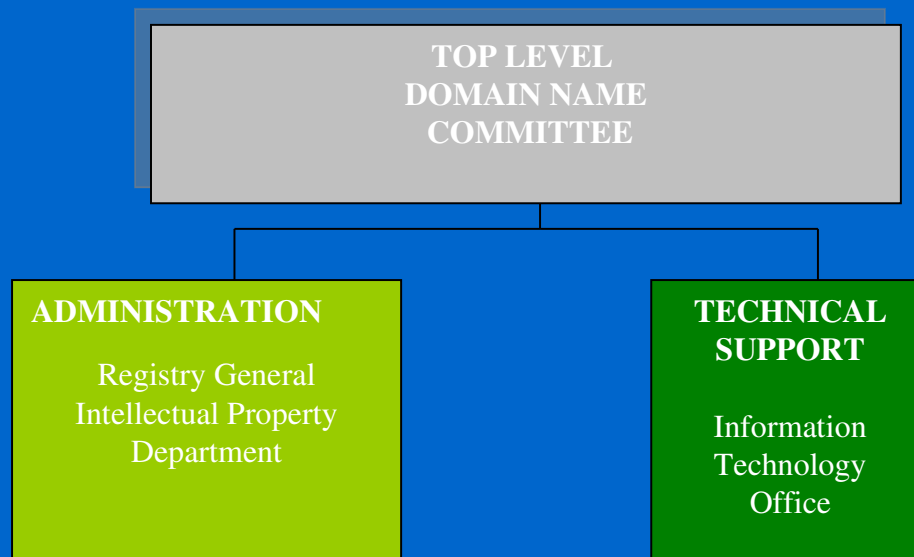
IT - Operations (continued)

- After new zone files generated NS3.bm copies the new zone files via FTP to holding directory on each DNS server.

- At about 3:15p.m. a job is run on each DNS server that validates and activates the new zone files.

- An archive copy of each zone file is saved in another directory, whether or not the zone file is valid.

- As/400-based RWHOIS website provides domain and registrant information directly from the database, and data is available on this service as soon as it is entered in the database.

IT Operational Workflow

BermudaNIC

Email

DNS Manager

Registrant

Request on Letterhead

FAX

Registrar enter domain information in TLD Database

DNS Zone is updated at 3:10 PM daily via FTP

All name server are masters and answer DNS queries.

NS1.BM

Registrar

TLD Database

NS2.BM

Internet

NS3.BM

Organization

Organizational Chart:

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            ┌─────────────────────────┐
            │       TOP LEVEL         │
            │     DOMAIN NAME         │
            │      COMMITTEE          │
            └─────────────────────────┘
               │                  │
   ┌───────────────────┐   ┌───────────────────┐
   │  ADMINISTRATION   │   │     TECHNICAL     │
   │                   │   │      SUPPORT      │
   │  Registry General │   │                   │
   │ Intellectual      │   │    Information    │
   │ Property          │   │    Technology     │
   │ Department        │   │    Office         │
   └───────────────────┘   └───────────────────┘
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TOP LEVEL DOMAIN NAME COMMITTEE

ADMINISTRATION

Registry General
Intellectual Property
Department

TECHNICAL SUPPORT

Information
Technology
Office

Organization

Top Level Domain Name Committee (TLDNC)

- TLDNC is made up of representatives from Bermuda Government's Information Technology Office, E-Commerce Department, RG/IPD and Internet Service Providers.

- Government appointed Chairperson.

Organization

Registry General

- The Registrar General - Mrs. Marlene Christopher has oversight of the operation of the administrative function of the domain name registry and is overall responsible for the budget, departmental development, staffing and policy issues and has executive oversight over development projects undertaken by the Registry. She also acts as the liaison person between the Top Level Domain Registry and the Top Level Domain Committee in matters relating to disputes, legislation, development projects and other such issues.

The Asst. Registrar General (IP) – Ms Anne Marie Joseph is responsible for the day to day management of the Top Level Domain Registry. She provides administrative and professional support to the Registrar and supervises the staff to ensure that the policies and procedures of the Top Level Domain Registry are carried out by the staff. She is responsible for contacting the support service vendors when technical or DNS problems arise. She manages the day to day conduct of projects undertaken by the Registry and acts as the first level of contact for clients who have a grievance or dispute.

Organization

Trade Marks Officer – Mr. Aubrey Pennyman is responsible for the day to day processing of applications to register **.bms**. He examines the applications for compliance with the policy and registration agreement, advises clients on matters relating to same and alerts staff when technical or DNS problems occur. He is the first level of contact for clients seeking information on the registration of **.bms**.

Organization

Administrative Officer (IP) - Ms Tracee Ratteray assists the Trade Marks Officer in the day to day processing of applications to register **.bm**s and assumes the duties of the Trade Marks Officer in his absence.

Organization

Information Technology Office:

The Information Technology Office (ITO) is a department of Government of Bermuda responsible for maintaining IT Infrastructure and assisting departments with planning for and implementing IT projects.

The ITO is also designated responsibility for maintaining the technical infrastructure of the TLD. This responsibility extends to troubleshooting problems with adding new URL's to the TLD.

Organization

Functions of ITO:

- **Availability Management –** The ITO monitors availability of the three TLD servers. If service drops, then a warning message is sent to the ITO Service Desk by the monitoring system. The ITO Service Desk then creates a Ticket, assigns responsibility and monitors through to resolution. The Service Management System will escalate the Ticket if required.

- **Capacity Management –** The ITO is responsible to monitoring capacity of the TLD Servers, but a system is not in place to perform this function in a routine manner.

Organization

Functions of ITO (continued):

- **Plan & Deploy Changes** – The ITO designed, built and deployed the current TLD environment. This includes that TLD registration management application used by the Registry General IPD. The ITO is required to advise the Registry General IPD and the TLD Committee for any changes to the TLD environment.

- **Trouble-shoot TLD** – Problems with the TLD are reported to and resolved by the ITO. The Service Desk creates and manages the Ticket to resolution. The problem is assigned to and resolved by the ITO Systems Engineering Section. The ITO uses contract software engineers as required to address problems in a timely manner.

Organization

Functions of ITO (continued):

- **Oversight & Strategic Planning** – the Director of the ITO is a member of the TLD Committee and participates in routine oversight of the TLD as well as formulation of strategy for the TLD.

Future Plans

Short-Term:

- **Forms and Transaction Engine Project –** the RG/IPD is embarking on a project to improve the interface between the URL registration system and the public. The proposed software will provide a new online form and workflow.

- **ICANN Registration –** The department has recognized the urgent need to update its registration with ICANN to prevent the occurrence of certain technical problems.

Future Plans

Long-Term:

- **Automation** – the department is also experiencing periodic breakdowns in the operating systems for the registration of **.bm**s and has taken the necessary steps to procure a new automated system.

- **Legislation –** Introducing legislation that will authorize the charging of a registration fee.

Future Plans

Long-Term (continued):

- **Implementing the WIPO UDRP Model –** To readily address possible .bm conflicts with trade or service marks the department is looking to implement a dispute resolution mechanism using the UDRP model.

- **Increasing Staff -** Due to workload increases the Registrar is looking to appoint a Domain Name Officer.

Thank You

Many thanks to the Internet Society (ISOC) and the Network Startup Resource Center (NSRC)