ORGANISATION AND SUBMISSION OF DATABASES IN CARICOM –
A COMMON APPROACH

FOURTH REGIONAL STATISTICAL RESEARCH SEMINAR
36th MEETING OF THE STANDING COMMITTEE OF CARIBBEAN STATISTICIANS (36th SCCS)
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OVERVIEW OF PRESENTATION

• Background
• Key issues to be addressed
• Proposed Framework Concept
• Implementation / Follow-up
BACKGROUND

• Statistics is a key instrument for the monitoring of the Regional Integration Process

• Variation in development of systems for managing statistics among Member States

• Need for a "strong" database with good organization and management, conforming to database standards
FINDINGS FROM REVIEW

• NSOs and Secretariat using a variety of tools and platforms to store and process statistical data.
• MS Excel appears to be most widely used – also used for data submission
• Widespread use of “desktop” databases (in MS Access)
FINDINGS FROM REVIEW (CONT’D)

• At least 10 States reported use of a database server product (from “Web-based Communications” consultants’ survey)

• Secretariat also uses MS SQL Server

• With the exception of Jamaica (STATIN) the entities visited did not appear to consolidate data management around server system.
DATA MANAGEMENT ISSUES

- Multiple copies of data – no “single point of truth”
- Lack of separation of data storage from data analysis (e.g. in MS Excel)
- Use of “desktop” systems (e.g. Excel, Access) limit possibilities for centralized access, management, and security
- Capability of database servers currently underutilized
DATA SUBMISSION ISSUES

- CARICOM Secretariat faces challenges in getting required data from countries in a timely manner in required format.
- Conversely, NSOs report challenges in sourcing, preparing and submitting data.
- Progress has been made in defining electronic templates and formats.
- Need to further streamline and structure collection/ submission process.
KEY CONSIDERATIONS

• Consistency/standardization in the structure and properties of data to be submitted
• Minimize duplication in the collection, processing and submission of data
• Move towards consolidation of information resources – support building of “data warehouse” for future data analysis
ISSUE OF STANDARDISATION

• Need to find a standard way of representing different types of data from different countries
• Prior work on harmonization at CARICOM level
• International efforts (e.g. SDMX)
• Standardization requires a full-fledged effort
FEATURES OF CONCEPT

- Centralized database at the national level to hold data for submission (NSSD)
- Decentralized mechanism for updating and maintaining the database
- Regional database at CARICOM Secretariat for aggregating data (CSSD)
- Data “replication” mechanism for updating regional database
# DATA SUBMISSION SCENARIOS

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Data entered manually from source documents or other source materials</td>
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<tr>
<td>B</td>
<td>Data imported from electronic files</td>
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<tr>
<td>C</td>
<td>Data obtained directly from database, application or other electronic sources</td>
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IMPLEMENTATION OF CONCEPT

- Databases designed for NSSD and CSSD
- Web application for data entry and maintenance
- Data replication routine for forwarding data to CARICOM Secretariat
- Use of query and reporting tools for data access and reporting
PURPOSE

• The purpose of this project is to strengthen the capacity of the CARICOM Statistics Sub programme and the NSO’s in Member States, by developing and implementing a secured web-based communication infrastructure for data transfer from Member States to the regional databank at the CARICOM Secretariat.
ACTIVITIES CONDUCTED

• Execution and analysis of the IT and Human Resource Audit

• Preparation of an IT infrastructure needs list

• Field visits to selected member countries

• Testing of the data transmission infrastructure

• Preparation of User Guide/Training Manual

• Training in the Installation and Maintenance of the system
MAINT ACHIEVEMENTS

• A detailed design and implementation plan of the proposed system

• An operational and secured Web-based Communication Infrastructure System.

• Technical documentation and user manuals

• Provision of equipment to Member States
PREREQUISITES

• Server

• Microsoft SQL Server 2008 R2

• Stable Internet connection

• Logmein Hamachi VPN Software
HOW THE SYSTEM WORKS

USER \rightarrow FORMS
\rightarrow SQL DATABASE
\downarrow
\rightarrow SQL DATABASE
\downarrow
\rightarrow SQL DATABASE
\downarrow
\rightarrow SQL DATABASE

DATA VIA VPN

DATA VIA VPN

FORMS \rightarrow USER

EXTERNAL HOST SERVER

COUNTRY

CARICOM HEADQUARTERS
BENEFITS

• Fast, efficient and secure transfer of data

• Procurement of relevant equipment for selected Member States.

• Enhanced Knowledge in SQL and networking techniques through training conducted.
LINKAGES TO OTHER PROJECTS

• Organisation and Use of Statistical Databases Project

• Component III on Data Warehousing and Archiving (Funded by the Inter-American Development Bank)

• Recommendations from the Organisation and Use Project will be used as the foundation of the IDB Project Component.
THE WAY FORWARD

• A pilot run of the developed web-based infrastructure will be conducted in three Member States.

• VPN Software will be upgraded with more security features and unlimited amount of connections.

• Ultimately, it is our intention to implement a system similar to the one being used by Eurostat.
THANK YOU FOR YOUR ATTENTION