



Food and Agriculture  
Organization of the  
United Nations



Indian Ocean Tuna Commission  
Commission des Thons de l'Océan Indien

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# OBSERVER PROGRAM

# DEVELOPMENT and

# LOGISTICAL COORDINATION

# WORKSHOP



CapMarine  
Capricorn Marine Environmental



Food and Agriculture  
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# IOTC ROS e-TOOLS : Objectives and Processes

***IOTC ROS OLC TR 8.1***

Category: IOTC ROS data collection and management tools

*[IOTC ROS OLC TR 8]*



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# 1. Background

IOTC Resolution 11/04 (ROS) and 16/04 (pilot project IOTC ROS)

ROS eTools:

**What:**

- ✓ a suite of software components, apps and data models;

**Why:**

- ✓ facilitate the process of collecting, reporting and managing ROS data at national and regional level;

**When:**

- ✓ following the entry in force of Res. 16/04, to support its work streams;

**How:**

- ✓ by providing a fully integrated and flexible solution to all IOTC CPCs lacking a comprehensive ROS data management workflow.





## 2. Main players in the generic ROS workflow

### The **scientific observer**:

- accredited individual, responsible for the independent collection of scientific information during an at-sea trip (according to ROS requirements);

### The **national focal point**:

- national fisheries or research institution, responsible for the collation of information collected by scientific observers operating under the flag state;

### The **IOTC Secretariat**:

- receives official data submissions of scientific observer data by flag states (i.e., a sub-set of the information collated by the respective national focal points);

### The **scientific community**:

- accesses to the aggregated observer information reported to the IOTC Secretariat and disseminated according to the rules and policies dictated by Resolution 12/02 - Data confidentiality policy and procedures.





### 3. Boundaries and data flows in the generic ROS workflow

Private / restricted domain

Public domain

Scientific  
observers

National  
focal point

IOTC  
Secretariat

Scientific  
community

All information marked as:

- for **reporting**
- for **collection**

All information marked as:

- for **reporting**
- for **collection**

All information marked as:

- for **reporting**

All information marked as:

- for **reporting**, disseminated according to the rules for the release of observer data in Res. 12/02

Data field category	To be collected by the observer	To be submitted to:	
		National focal point	IOTC Secretariat
Mandatory for reporting	Always	Yes	Yes
Optional for reporting	When available	Yes	Yes
Suggested collection	When available / feasible	<i>When collected</i>	<b>No</b>

Summary of the collection and reporting requirements for all ROS data fields according to their category





## 4. The ROS eTools

### **ROS MD** (the ROS data model)

- Based on data specifications as approved by the Commission and its SC

### **ROS CI** (e-collection and management interface)

### **ROS NDB** (national database)

### **ROS RDB** (regional database)

- Application Programming Interfaces (APIs)
- Data extraction and visualization interfaces (UI)





## 5. The ROS eCI (e-collection and management interface)

### Designed to:

- support scientific observers in organizing the information collected during a trip;
- validate the information against the ROS requirements;
- export the information to the national focal points.

### Main features:

- Standalone, multi-platform app;
- Localized in English / French;
- Does not require Internet connectivity.





## 6. The ROS NDB (national database)

### Designed to:

- complement the ROS CI;
- receive, validate and collate information collected by the ROS CI;
- submit data (mandatory and optional for reporting) to the ROS Regional DB;
- extract standard / custom metrics from the national data;
- export the information as a standalone Access DB.

### Main features:

- Standalone, multi-platform app;
- Localized in English / French;
- Requires Internet connectivity to submit data to the ROS RDB





## 7. The ROS RDB (regional database)

### Designed to:

- manage and disseminate reference data to the ROS eTools;
- receive and collate information provided by the ROS NDB;
- disseminate scientific observer data aggregated according to Resolution 12/02.

### Main features:

- centralized (hosted by the IOTC Secretariat);
- clients require Internet connectivity to access the information;
- REST-based APIs;
- prototype data dissemination interfaces.

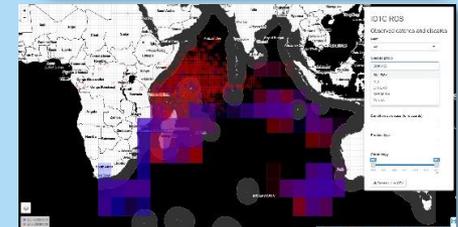
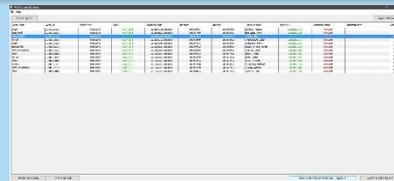
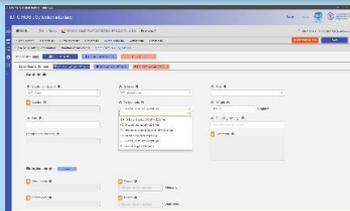
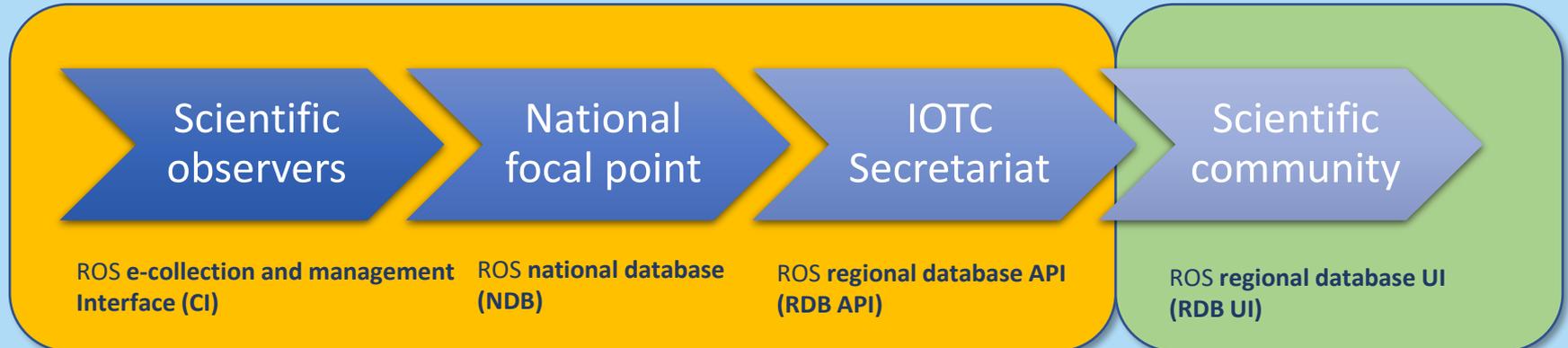




# 8. The ROS eTools and data mgmt. workflow

Private / restricted domain

Public domain





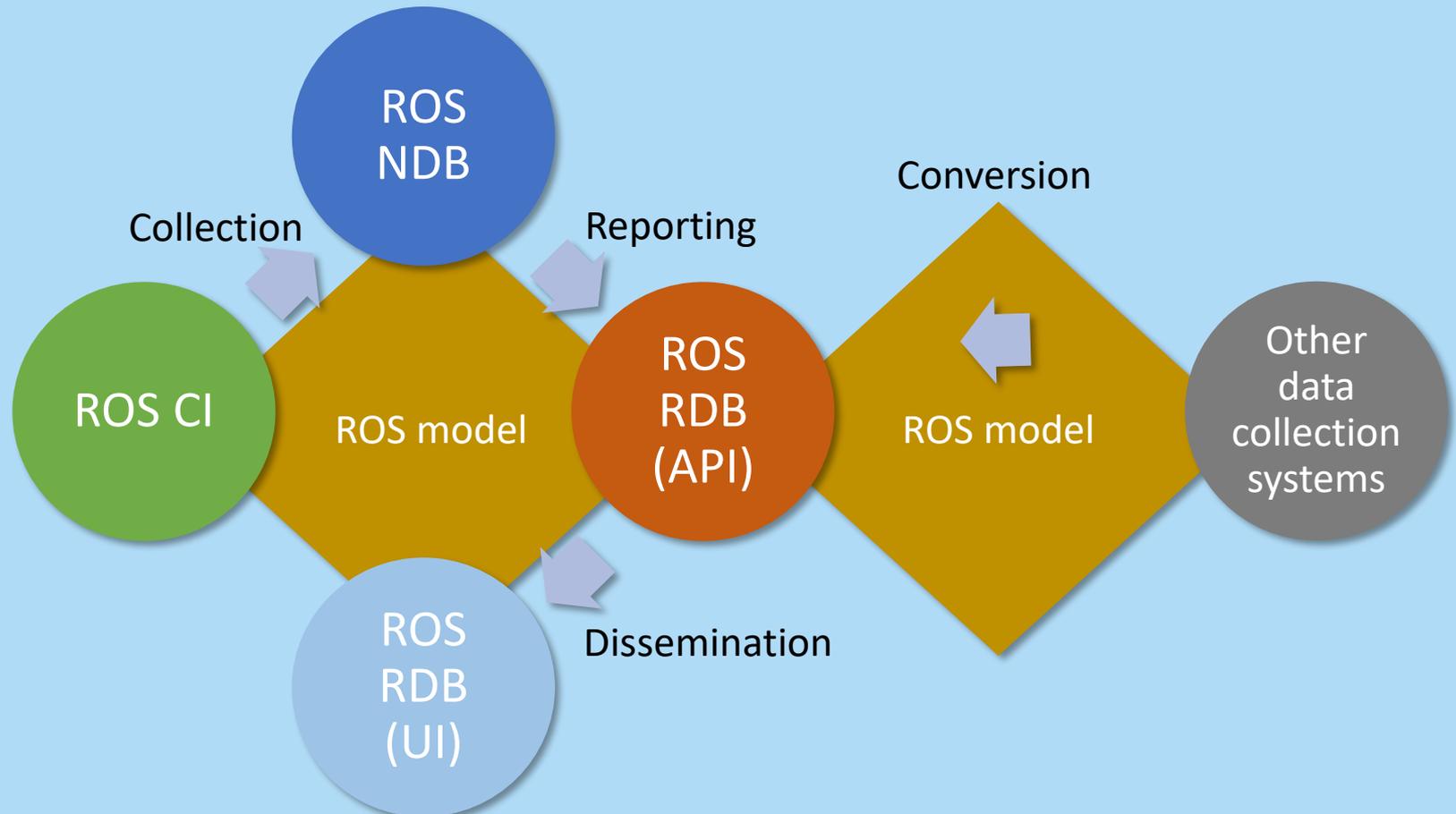
## 9. The ROS data model

- Formal specification of the structure of the information reflecting the ROS requirements;
- Materializes in two ways:
  - As the structure (tables, relationships) of a relational database that can be used to effectively store and retrieve ROS data;
  - As the grammar (XSD) defining the structure of the XML documents used to exchange information across the boundaries of the ROS tools;
- It is the glue that connects the ROS tools and enables the exchange, storage and retrieval of the information across components and boundaries.





## 9. The ROS data model





## 10. Acknowledgements

**NOAA** and the **EU (DG-MARE)** for the funding in support of the design and development of the ROS tools;

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# THANK YOU FOR YOUR PARTICIPATION



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