NATIONAL BIODIVERSITY DATABASE SYSTEM (NBDS) IN VIET NAM

Biodiversity Conservation Agency, Viet Nam

1. National Biodiversity Database System (NBDS): Development progress

Overall Objective: the 2nd generation of NBDS is developed and operated

NBDS 1st generation: started in 2015

NBDS Project, supported by JICA, implemented by BCA, International experts &local experts (11/2011-03/2015)

2. Basic strategy of NBDS design

1. **Be a portal for biodiversity information in Vietnam**

   - Try to create a network of existing data in Vietnam

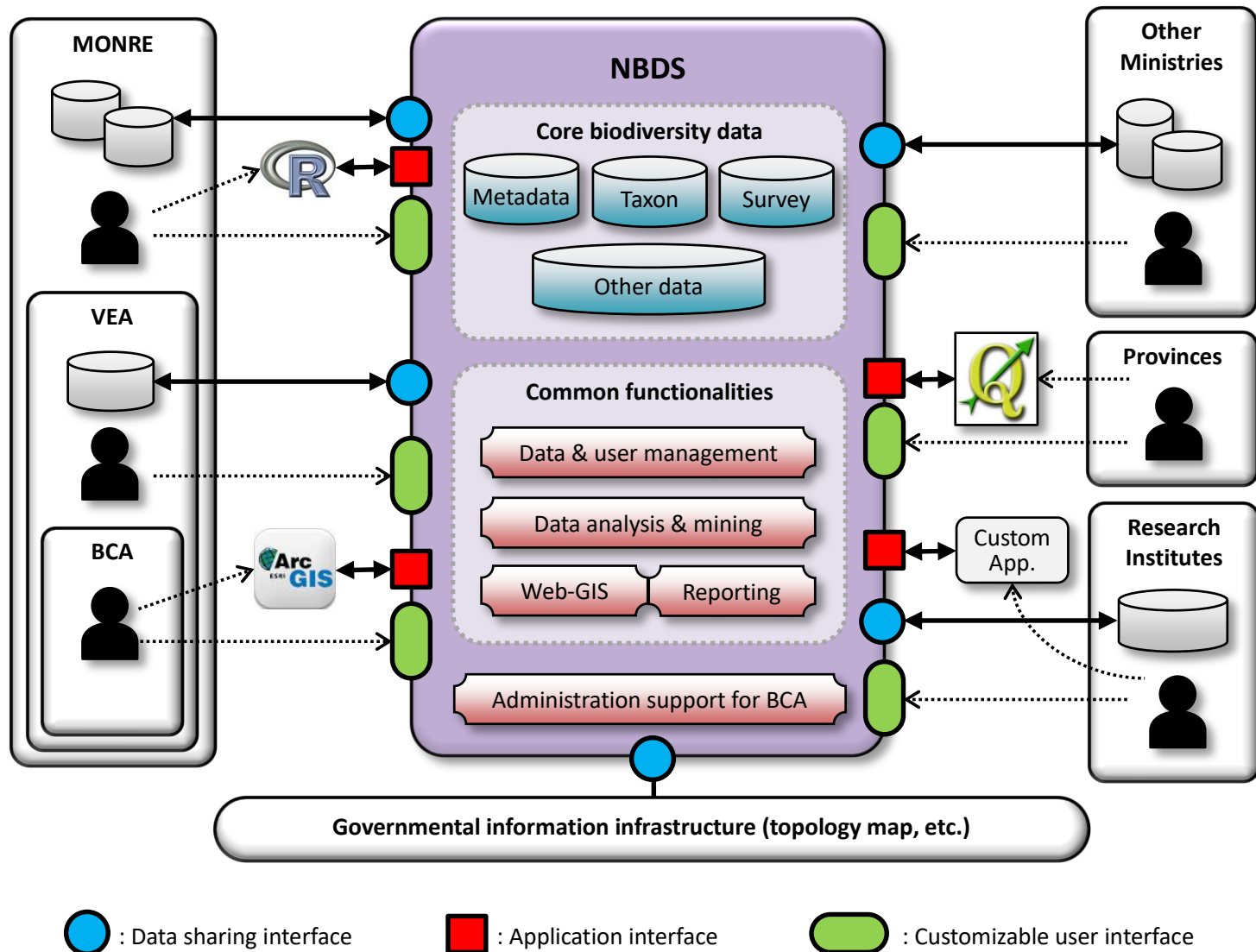2. **Focus on the core data / functionality**

   - Don't duplicate the existing effort / data / functions

   - Don't try to be all-in-one system

3. **Provide flexible interface**

   - Co-work with external data / external applications

   - Don't force users to adapt to NBDS.
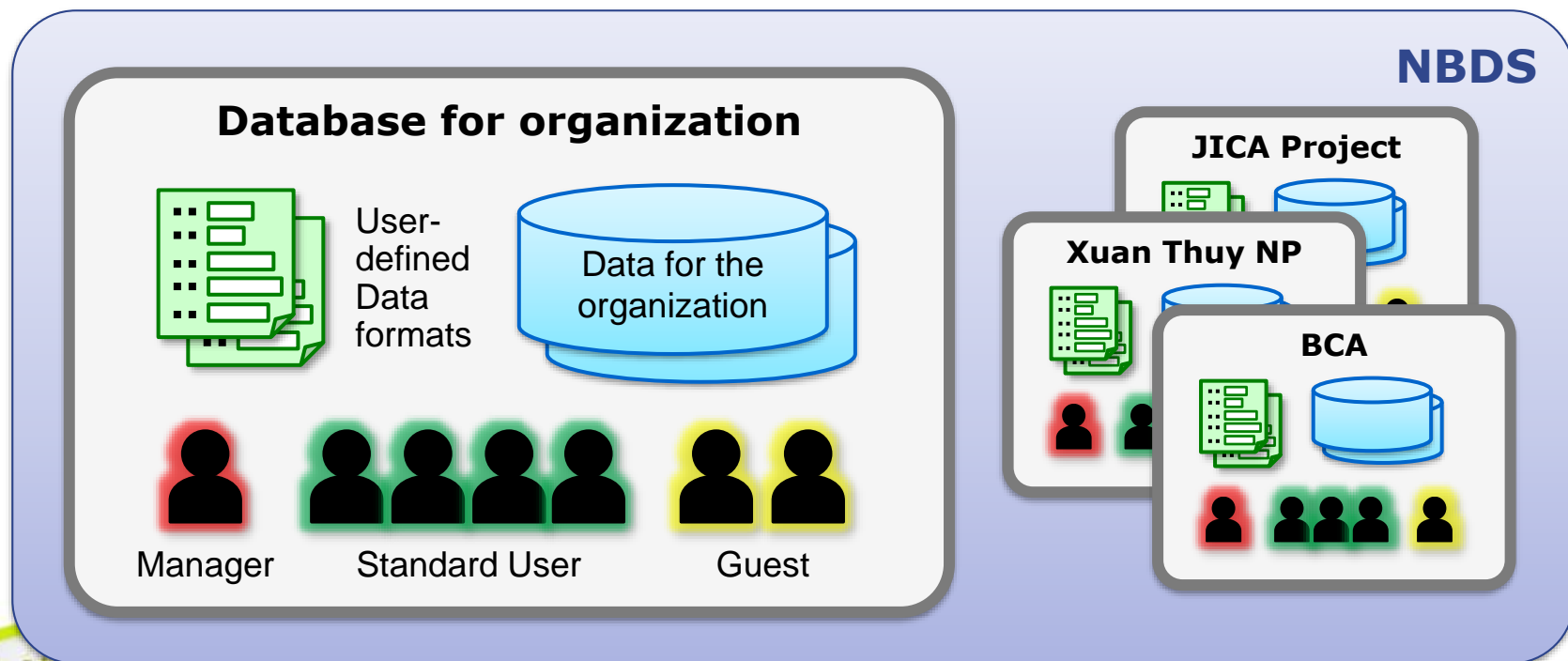   NBDS should try to adapt to the users.

4. **Comply with national / international standards**
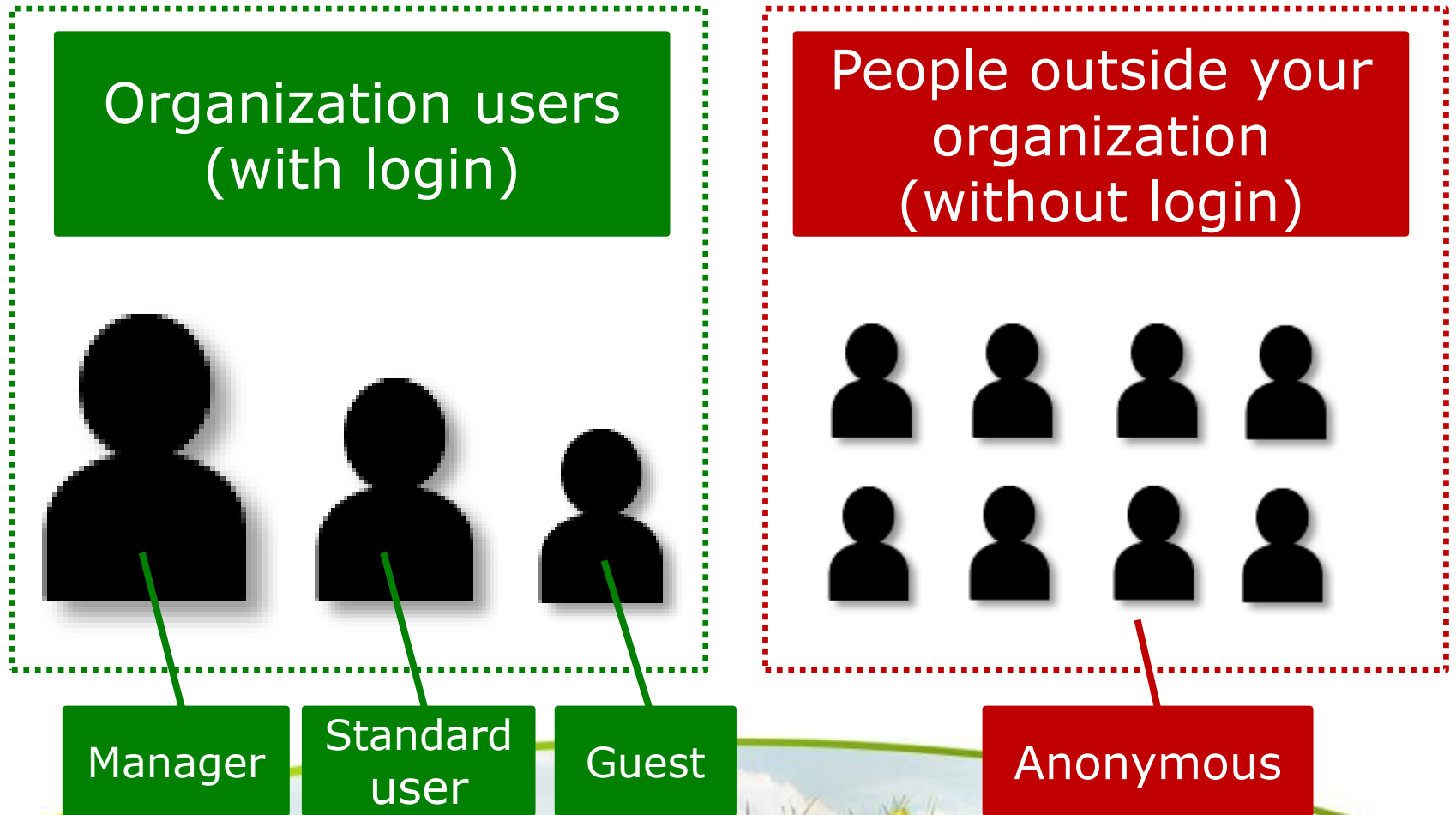
3. Basic architecture of NBDS

MONRE

NBDS

Other Ministries

Core biodiversity data

Metadata Taxon Survey

Other data

VEA

Provinces

Common functionalities

Data & user management

Data analysis & mining

Web-GIS Reporting

BCA

Research Institutes

Custom App.

Administration support for BCA

Governmental information infrastructure (topology map, etc.)

⬤ : Data sharing interface   🟥 : Application interface   🟢 : Customizable user interface

4. Organizational database in NBDS

- **You can create database for your organization in NBDS**
- **For example:**
  - Database for province / Database for ministry / Database for university

5. Users

■ **Manager, Standard user, Guest**

Organization users
(with login)

People outside your
organization
(without login)

Manager

Standard
user

Guest

Anonymous

NBDS Users

User Category	User Level	Example of user
Primary user (Official user)	**Central government**	· **MONRE / VEA / BCA** · **MARD** · **MOST**
	Local government	· **PPC** · **DONRE** · **DARD**
	Protected area	· **National Parks (XTNP, etc.)**
Secondary user (Contract-based or Voluntary user)	**Organizational user**	· **Research institutes (IEBR, etc.)** · **Universities (VNU, etc.)** · **NGOs** · **International organizations (IUCN, etc.)**
	Individual user	· **Anonymous user (Visitor)** · **Contributor**

6. Internal data structure of NBDS

No.	Group of Data Structure	Status
1	Metadata for Biodiversity Information	• **23** fields (Title, Publication date, Location, Taxonomic coverage, etc.) • International standard: GBIF– Darwin Core
2	Species (Taxon)	• **65** fields: **43** basis fields (Scientific name, Kingdom ~ Specific epithet, Vernacular name) & **22** extension fields (CITES, VN law to protect, Province, Invasive status, etc.)
3	Occurrence (Survey)	•**171** fields: **159** basis fields (Species, Date, Location, Life stage, Recorder, etc.) & **12** extension fields (Preservation method, Air/water temp., weather, water/soil pH, etc.)
4	Ecosystems Diversity	•Ecosystem classifications •List of Ecosystems in Vietnam
5	Genetic Diversity	•Not implemented yet / No standard in the world
6	Socio-Economic data	•NOT duplicate existing data, no huge storage
7	Data for provinces	Customizable
8	Data for Biodiversity Policy and Administration (for BCA)	
9	Data for System Management	
10	Other data	Other data stored and managed by NBDS

7. Data stored in the current NBDS (Update to 06/2017)

- **Metadata (50 records)**
  - VN Red List / Red Book (2003 / 2007)
  - Survey at Xuan Thuy National Park (Currently up to the 2nd survey)
  - Data from 08 additional PA in 2016 -2017
  - Species checklists (Derived from Fauna/Flora in Vietnam, XTNP survey)

- **Taxonomy (11,847 records)**
  - VN Red List / Red Book (2003 / 2007)
  - Species checklists (Derived from Fauna/Flora in Vietnam, XTNP survey)

- **Occurrence (27365 records)**
  - Survey at Xuan Thuy National Park (Currently up to the 2nd survey)
  - Data from 08 additional PA in 2016 -2017

■ **Visit portal of NBDS at:** http://nbds.fimo.edu.vn/

Thank you