

Automating Ship Reporting

Proposal for a roadmap for roll-out of automated ship reporting

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Presentation Topics

1. **Vessel Shore Reporting Management System (VSRMS)**
2. **Ship Reporting Architecture Proposal**
3. **Proposed Implementation Road Map**



VSRMS



Vessel Register

Person Register



Ship's Particulars

Ship's Certificate

Voyage

Port Of Call

CARGO

Crew/ Passenger
Voyage

Articles

Ship's Store

Health

Vaccination

Waste

Security

Currency

NILL List

Ballast Water

Ballast Water
Details

Ship's Repair

Disembark

Generate Reports

VSIMS

Select Continent **ASIA** Select Port **Australia** Select Report

PDF Crystal Reports

Current Page No: Total Page No: Zoom Factor: 100%

The image shows a screenshot of the VSIMS software interface. At the top, there is a title bar with the text "VSIMS" and standard window control buttons (minimize, maximize, close). Below the title bar, there are three dropdown menus: "Select Continent" with "ASIA" selected, "Select Port" with "Australia" selected, and "Select Report" which is currently empty. A yellow mouse cursor is pointing at the "Select Report" dropdown. Below the dropdowns is a toolbar with various icons for navigation and printing, including a search icon and a minus sign. The main area of the window is a large, empty white space, likely intended for displaying a report. At the bottom of the window, there is a status bar with three labels: "Current Page No:", "Total Page No:", and "Zoom Factor: 100%".



Australian Government
Australian Quarantine and Inspection Service

AQIS BALLAST WATER LOG

Commonwealth of Australia Quarantine Act 1908 Section 27A

Ship's Name: Hanbara

Master's Signature: _____

Year Built: 1,973

Date: 7/23/2015

IMO No: 4,564,536 Call Sign: AG7897

AG7897

1) Did you use the Ballast Water Decision Support System (BWDSS)? yes

If Yes, enter 7-digit Risk Assessment Number (RAN): ert
For tanks assessed as LOW risk: complete columns A, B and D
For tanks assessed as HIGH risk: complete columns A, B, C and D
If NO, complete columns A, B, C and D

Instructions for Exchange:

Exchange must be carried out to 95% volumetric exchange for empty/refill method and 300% for flow-through or dilution method. Please fill in either the Empty/Refill column or the Flow-Through column depending on which method you used for each tank (only one method per tank is acceptable)

Record ocean depth at which exchanges occurred (metres):

Min: 5,435.00 MTR Max: 5,435.00 MTR

(A) Ballast Water Tanks or Cargo Holds		(B) Ballast Water Source			(C) Exchange					(D) Intended Australian Discharge Port for Ballast Water			
Tank	Full Capacity (m³)	BW Uptake PORT	Uptake Date	Volume of ballast water taken up (m³)	Identify the pumps used for ballasting and their estimated current delivery capacity per hour (m³/hr):					BW Discharge Port	Discharge Date	Volume for discharge (m³)	
					Exchange Location (Latitude/Longitude) Start (S) End (E)	Exchange Date & Time Start (S) End (E)	List Pumps Used (Pump Number)	Empty/Refill ONLY Residual volume when empty (m³)	Flow-through or Dilution ONLY				
					Pump 1: <u>80m³/hr</u>	Pump 2: <u>80m³/hr</u>							
					Volume pumped (m³)	Percentage Exchanged							
tank1	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							
tank2	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							
tank3	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							

AQIS BALLAST WATER LOG
Commonwealth of Australia Quarantine Act 1908 Section 27A

Ship's Name: Hanbara IMO No: 4,564,536 Call Sign: AG7897

Master's Signature: _____ Date: 7/23/2015

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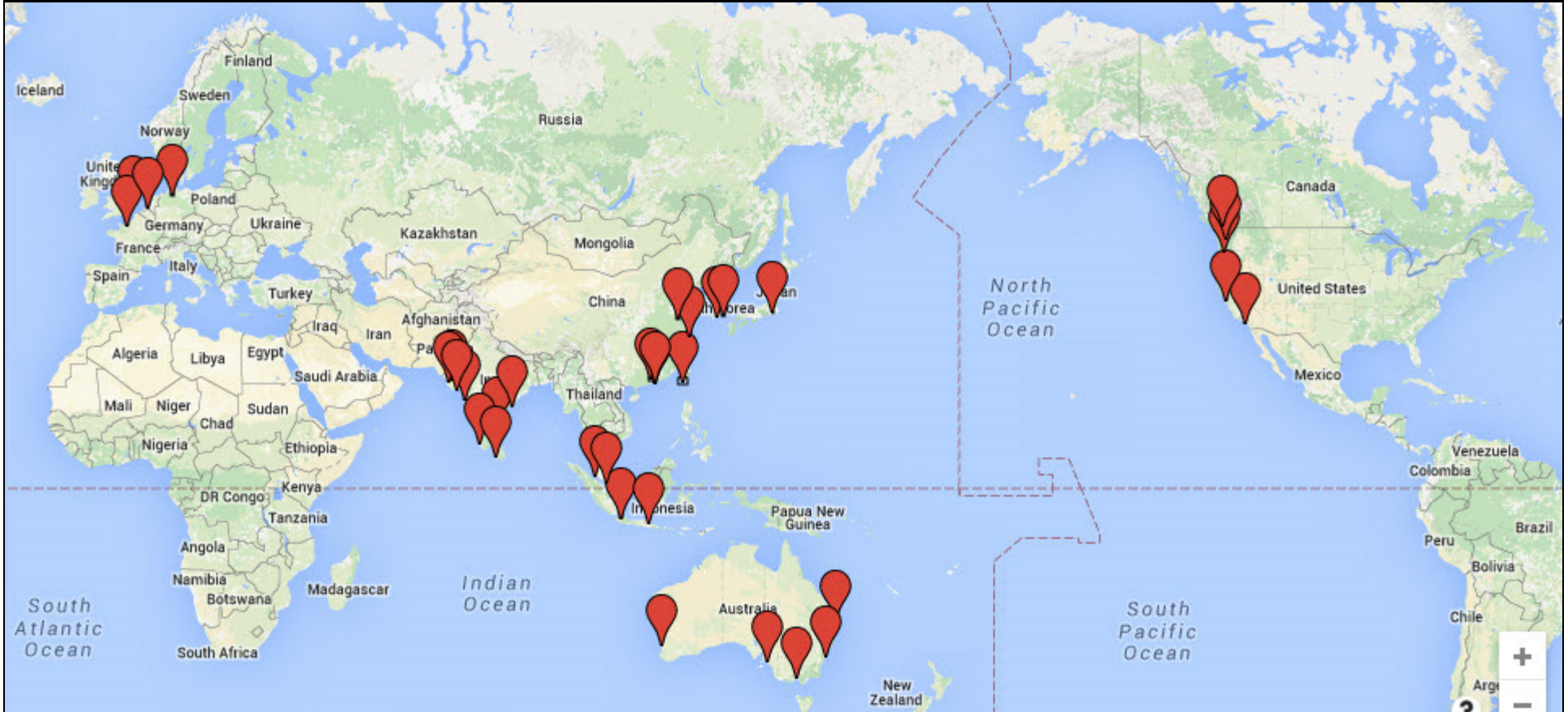
If Yes, enter 7-digit Risk Assessment Number (RAN): ert

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If NO, complete columns A, B, C and D

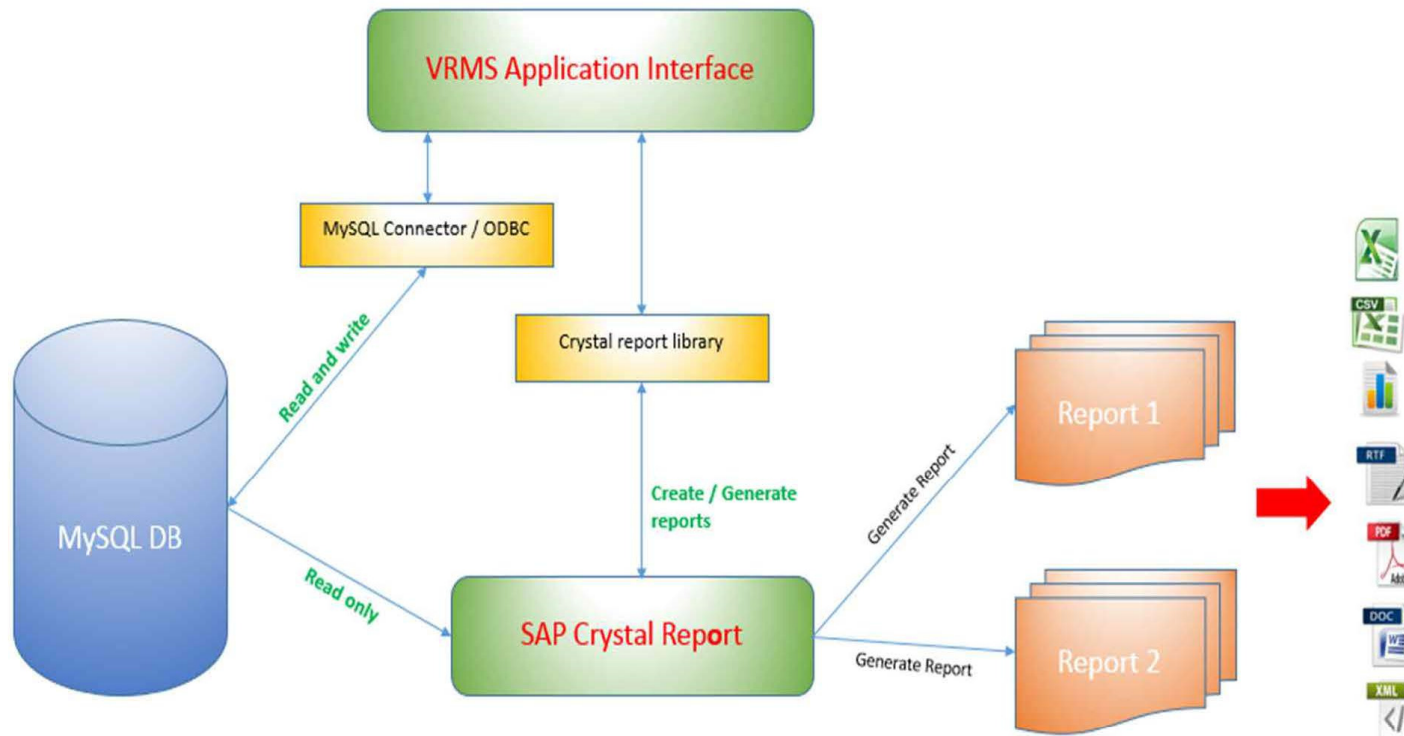
Instructions for Exchange:
Exchange must be carried out to 95% volumetric exchange for empty/refill method and 300% for flow-through or dilution method. Please fill in either the Empty/Refill column or the Flow-Through column depending on which method you used for each tank (only one method per tank is acceptable)

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Tank	Full Capacity (m³)	BW Uptake PORT	Uptake Date	Volume of ballast water taken up (m³)	Identify the pumps used for ballasting and their estimated current delivery capacity per hour (m³/hr):					BW Discharge Port	Discharge Date	Volume for discharge (m³)	
					Exchange Location (Latitude/Longitude) Start (S) End (E)	Exchange Date & Time Start (S) End (E)	List Pumps Used (Pump Number)	Empty/Refill ONLY Residual volume when empty (m³)	Flow-through or Dilution ONLY				
					Pump 1: <u>80m³/hr</u>	Pump 2: <u>80m³/hr</u>							
					Volume pumped (m³)	Percentage Exchanged							
tank1	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							
tank2	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							
tank3	765.00	jgh	5/13/2015 12:00:	76.00	76.00 878.00	5/13/2015 12:00:00 AM	Pump1	756.00	567.00	456.00	jg	5/27/2015 12:00:00 AM	756.00
					767.00 7,657.00	5/20/2015 12:00:00 AM							

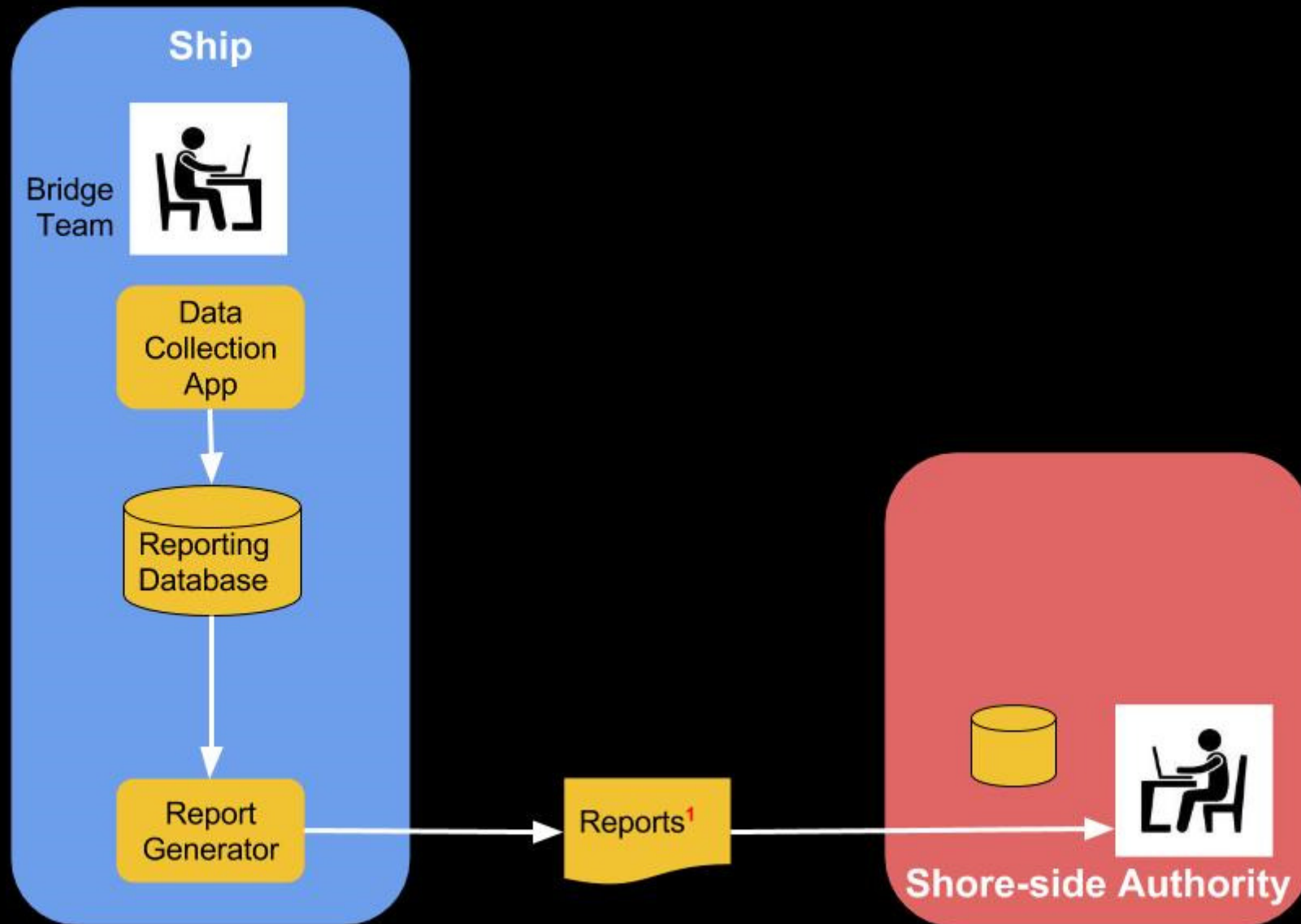


SYSTEM OVERVIEW



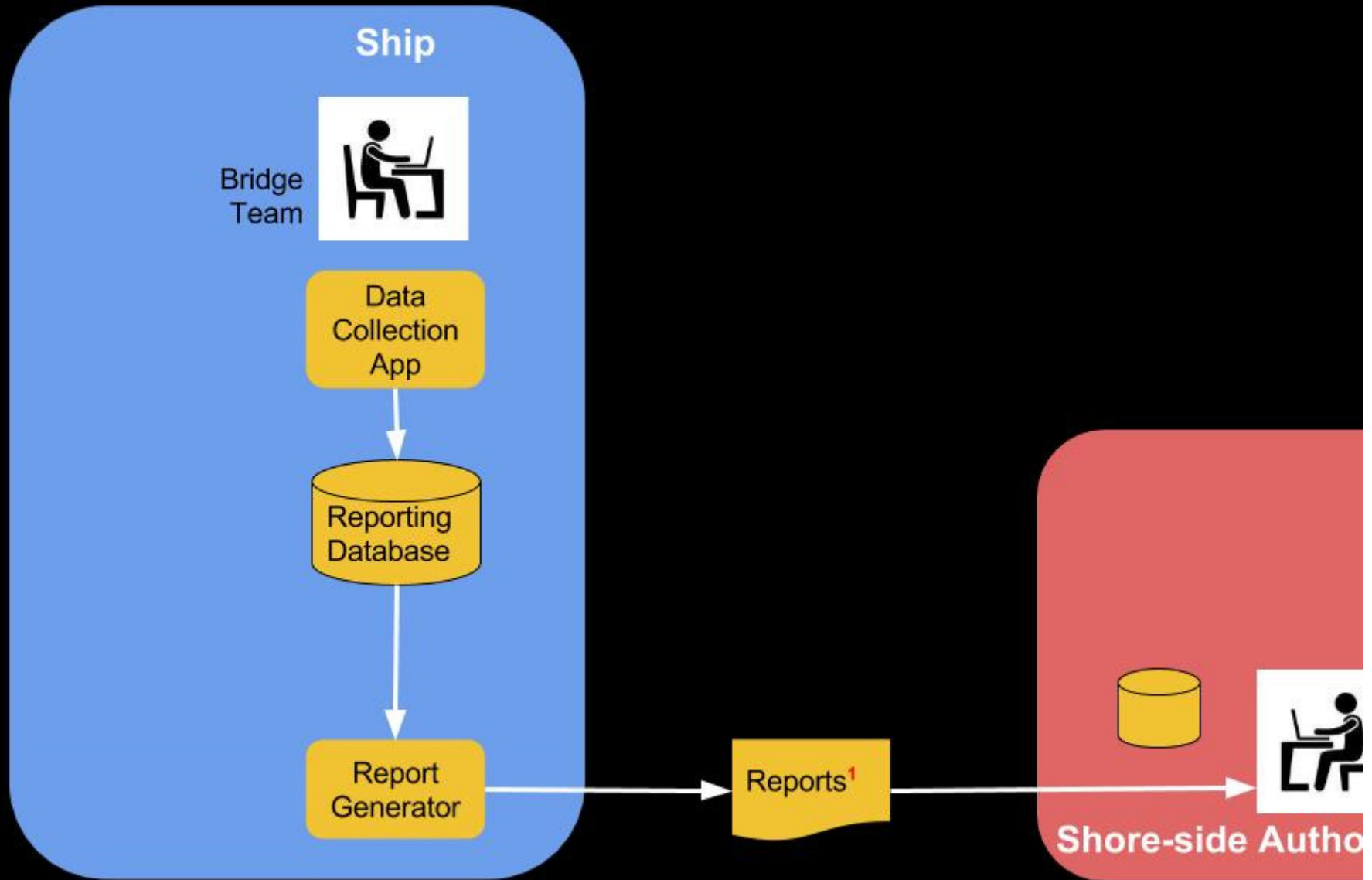
Architectural Design of VSRMS

Scenario 1



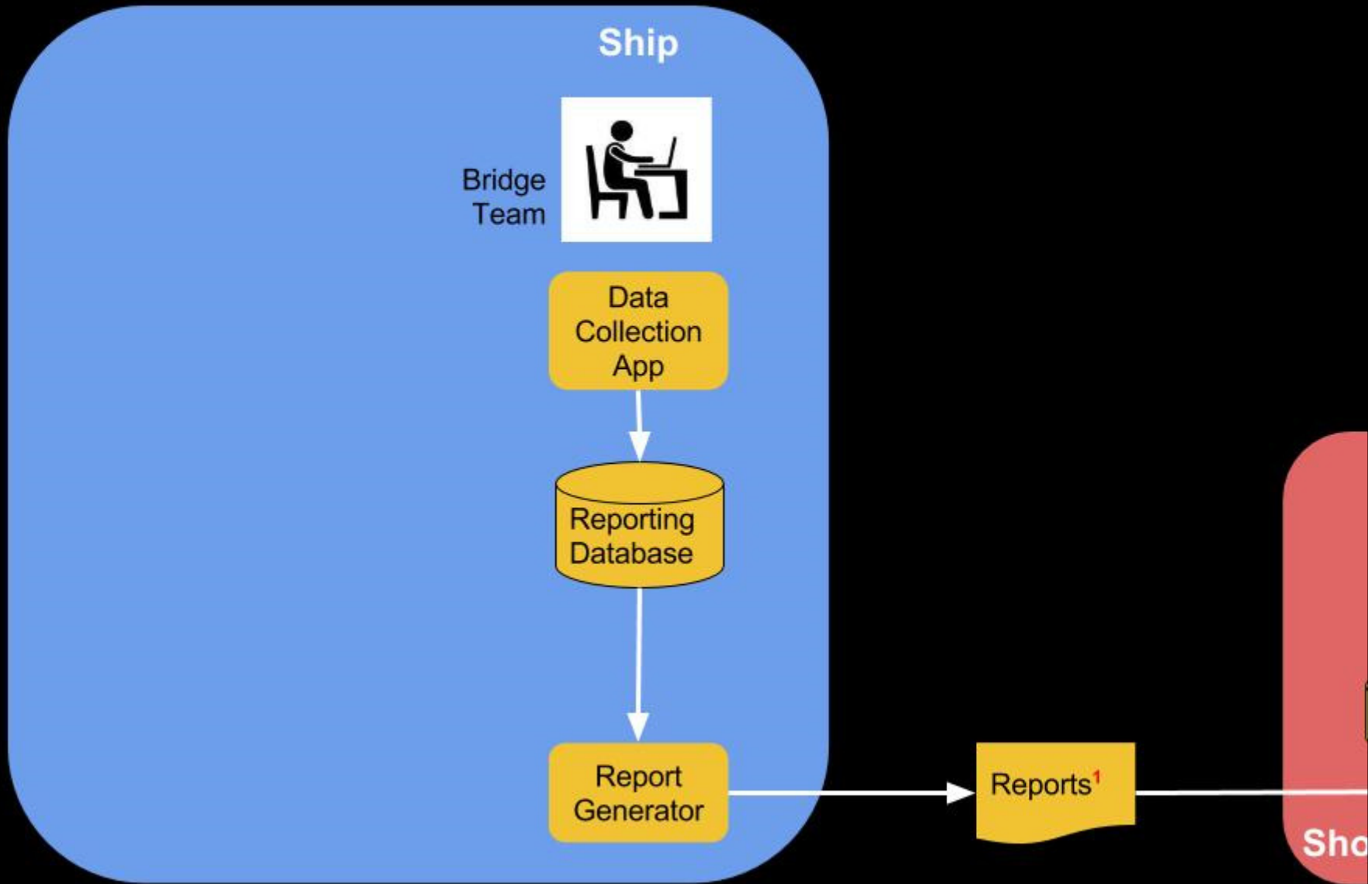
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 1



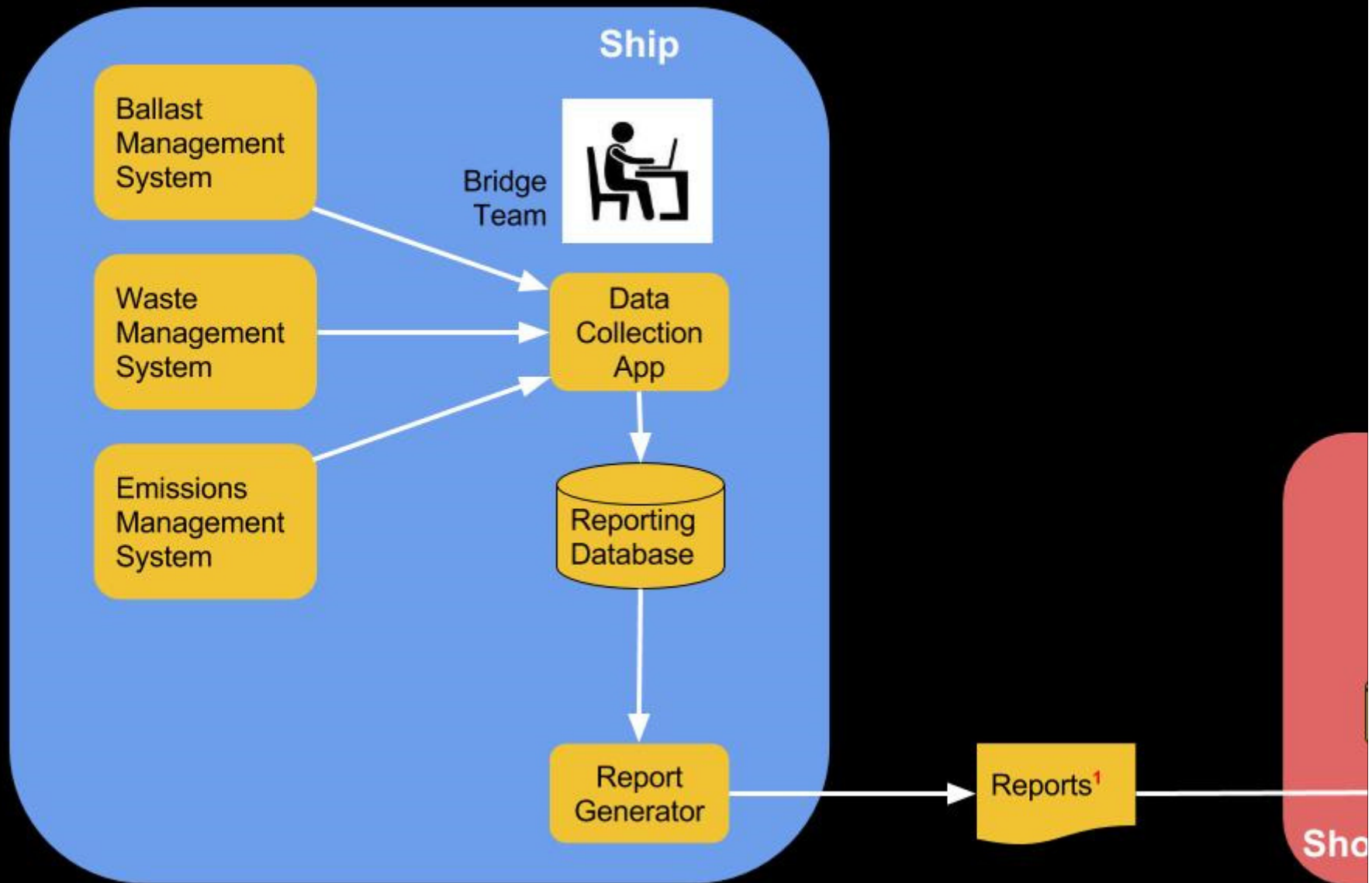
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 1



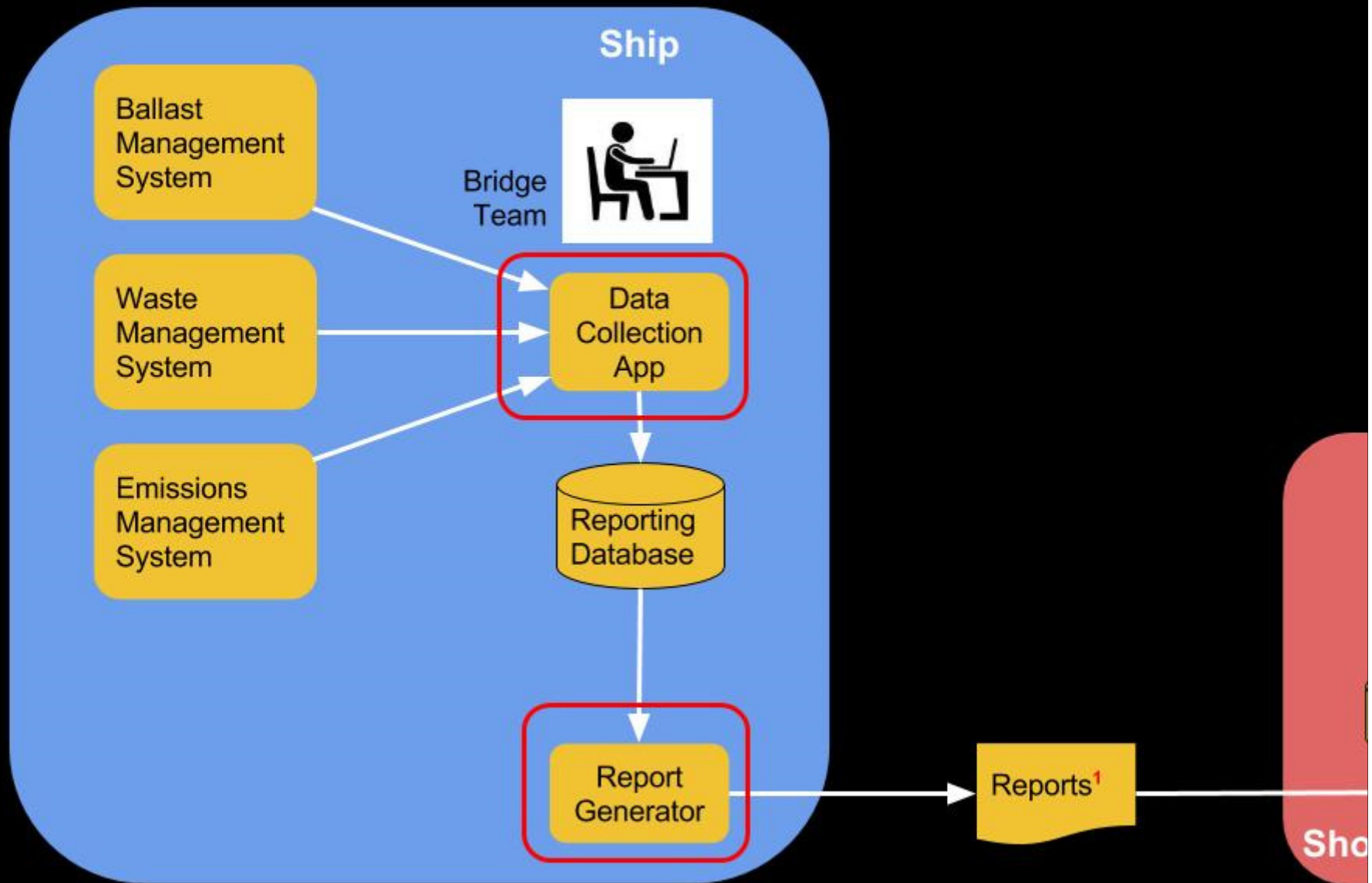
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Scenario 1



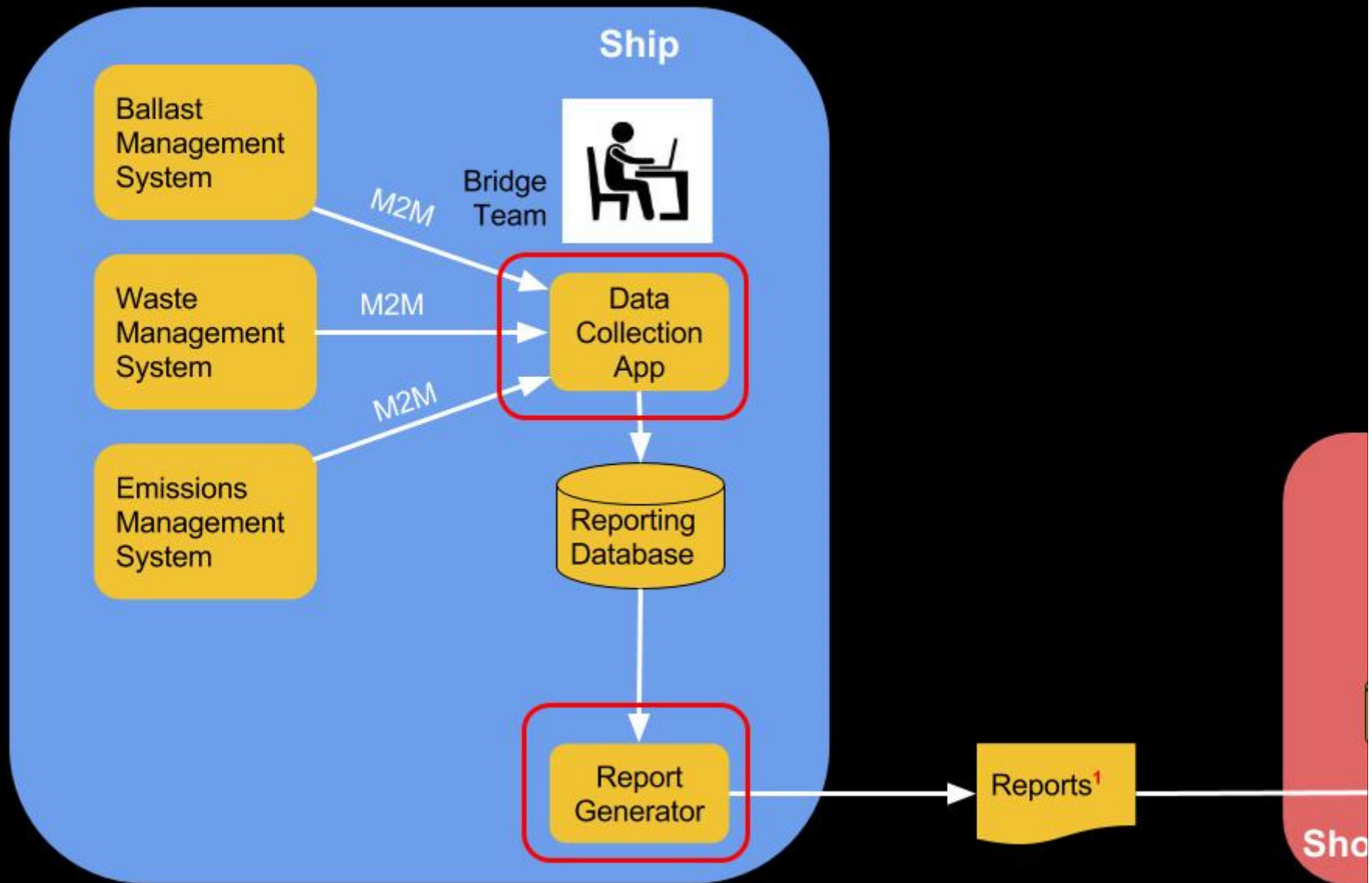
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

Scenario 1



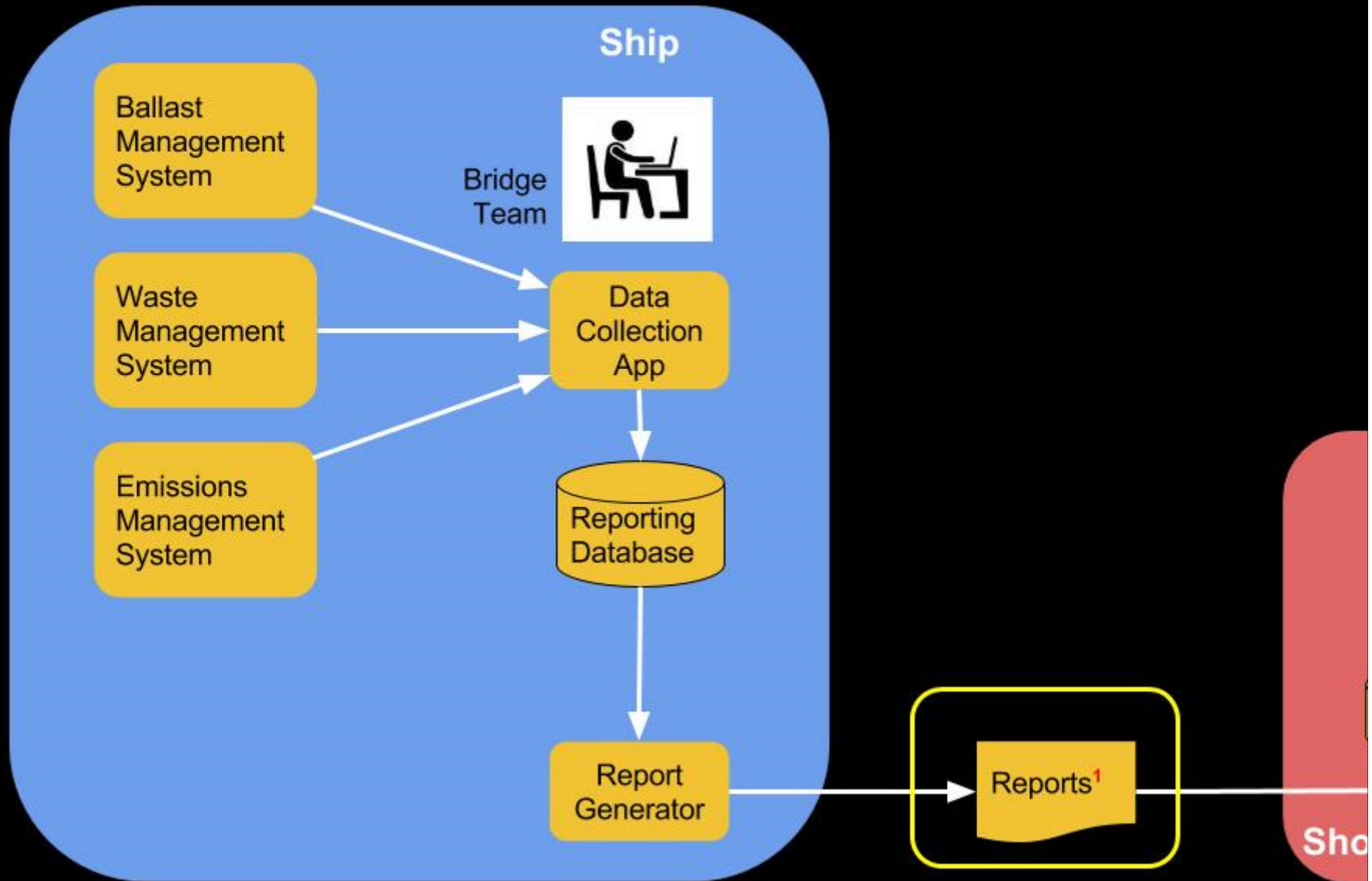
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

Scenario 1



¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

Scenario 1



¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

Ship Report Library

urn:mrn:**iala**:**sr**:**igr**:**us**:**wa**:**sea**:12345

- **iala** = the international organization that owns the register of reports
- **sr** = ship report register
- **igr** = inter governmental region code (i.e. Schengen)
- **us** = country code
- **wa** = state/province code
- **sea** = port code
- 12345 = report id

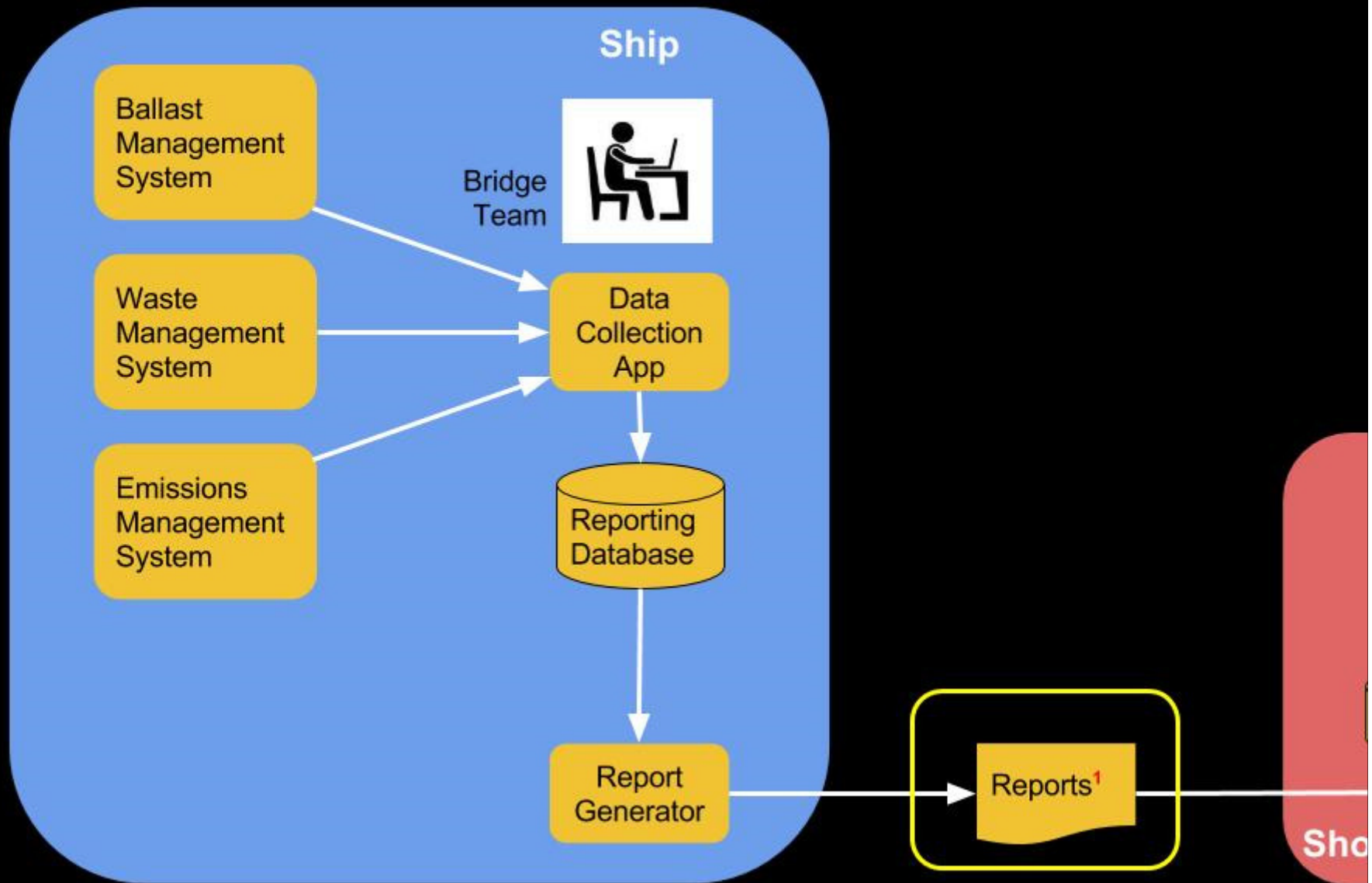
Notes:

- Country code, State/Province, Port code would be 99:99:999 in case of the report is owned by an inter governmental region
- Note: igr would be 999 if the report is not owned by an inter governmental region
- Note: if the report is owned by a country then state/province, port code would be 99:999

Report Properties

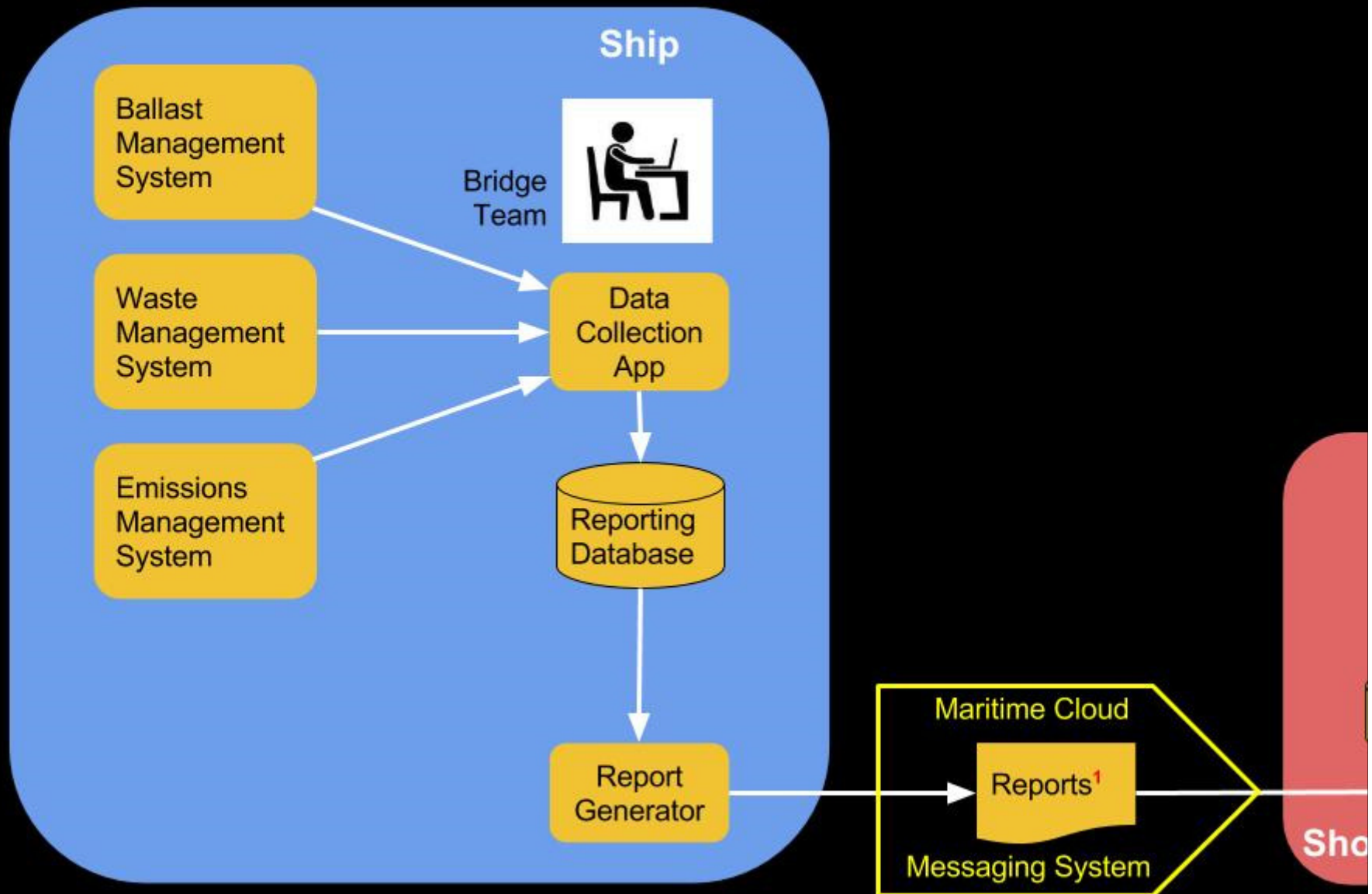
- **Type (Single Window, Customs, Health, etc.)**
- **Submission Criteria (Who?, When?, Where?, How?)**
- **Format (Hard Copy, Fax, PDF, XML, etc.)**
- **Languages (i.e. Korean & English)**
- **Form Layout Template**
- **Fields (Vessel Name, Arrival Port, etc.)**
- **Report Database Sources (Table name, Field name)**

Scenario 1



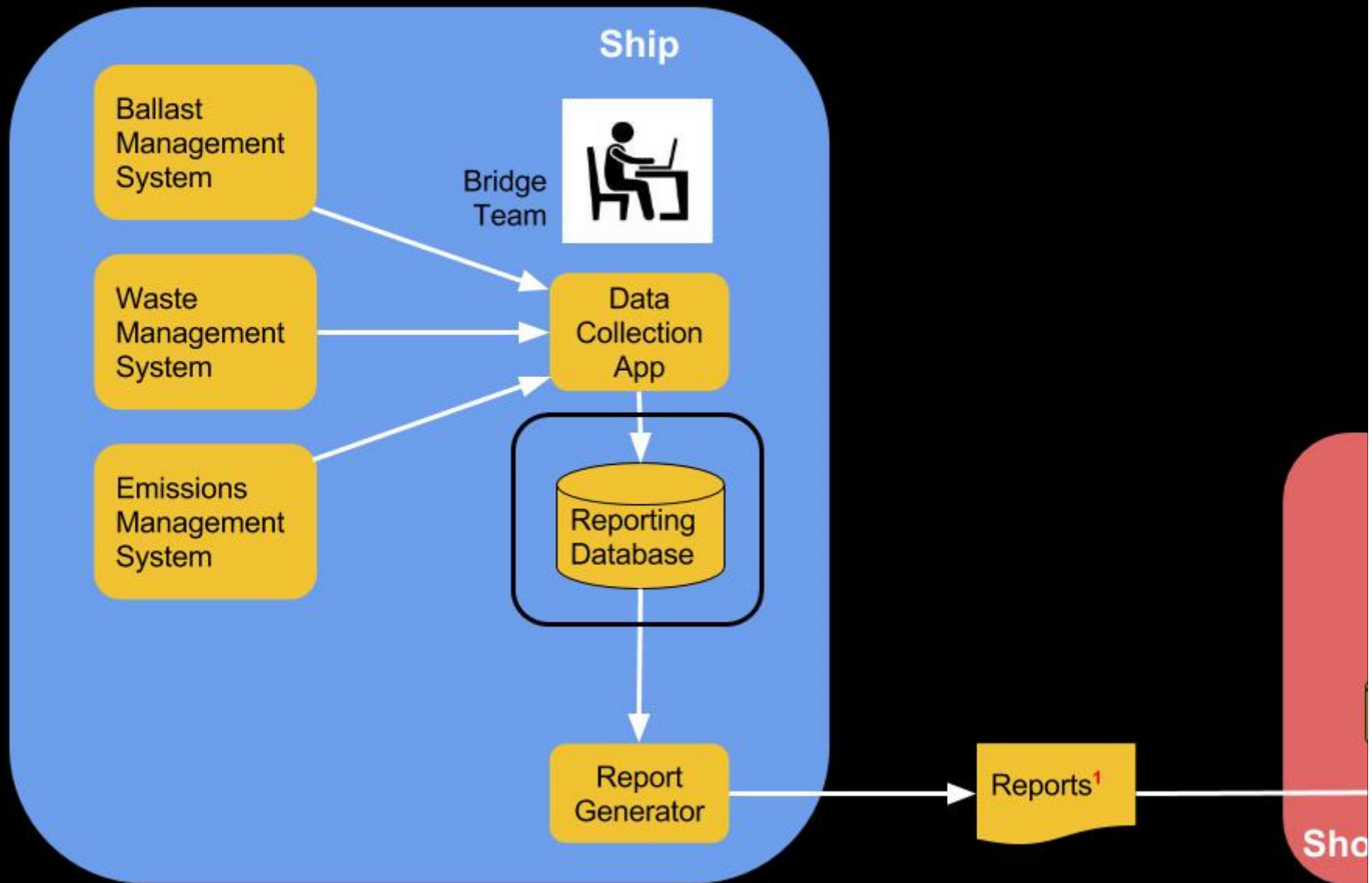
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

Scenario 1



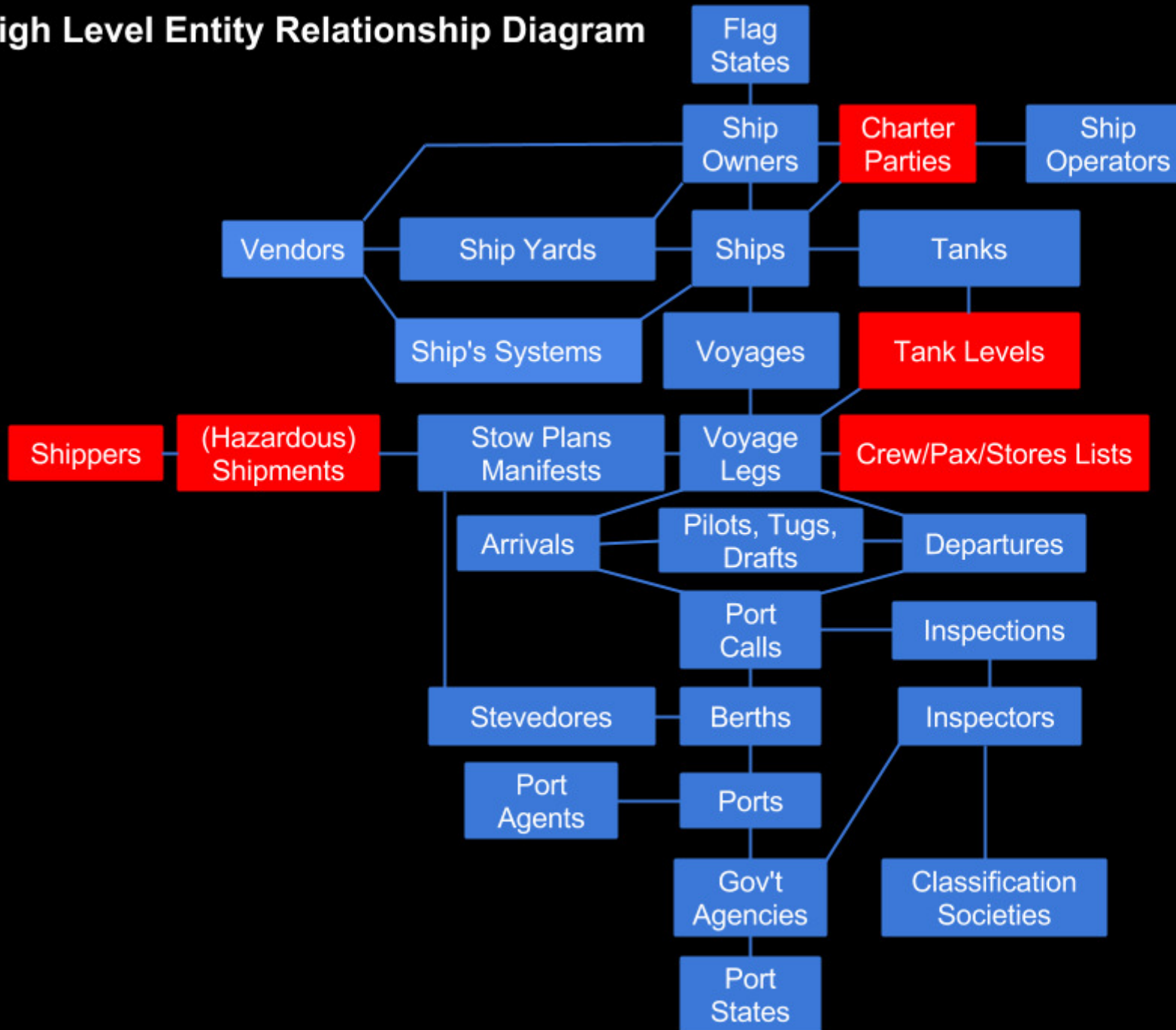
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 1

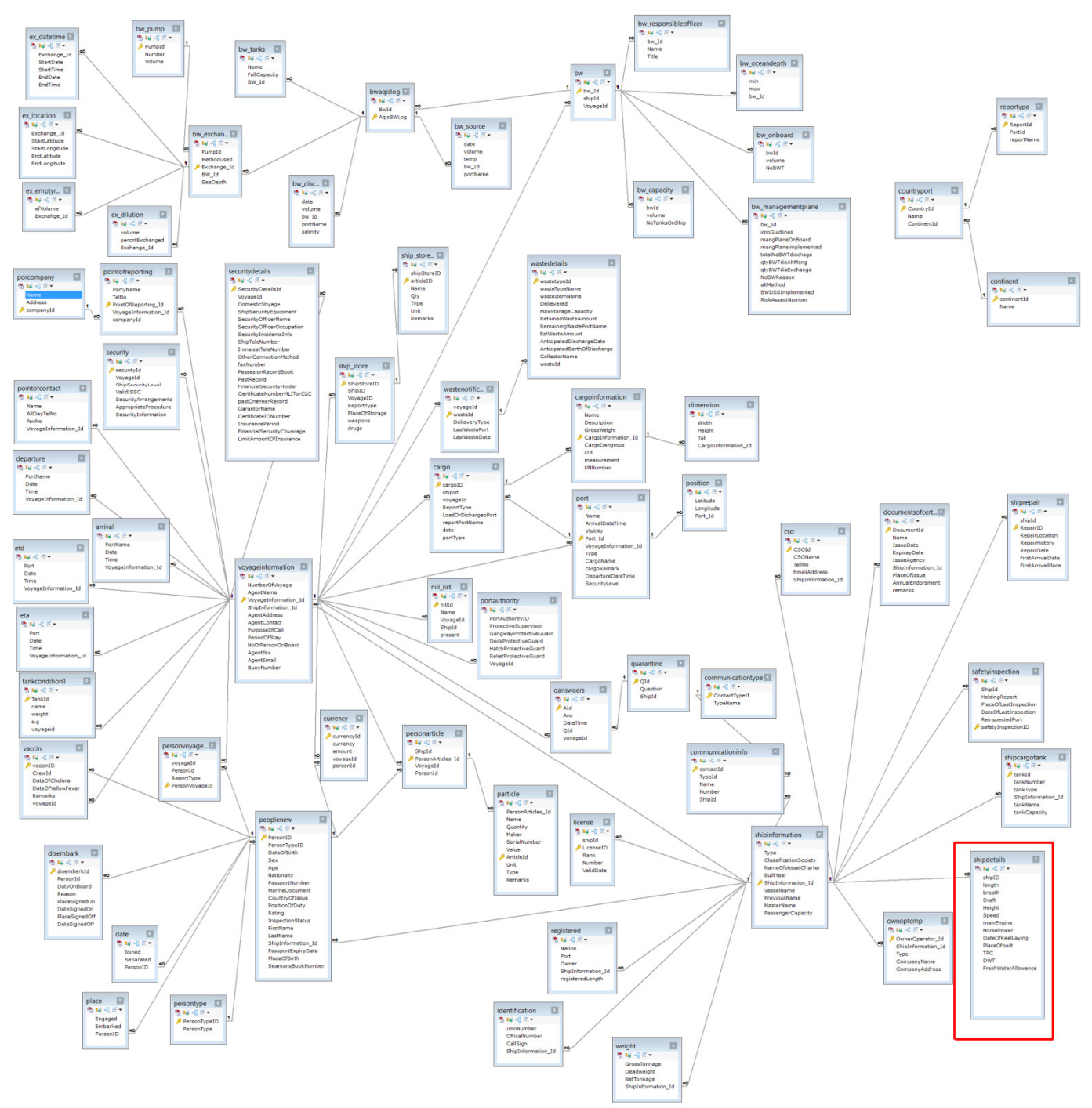


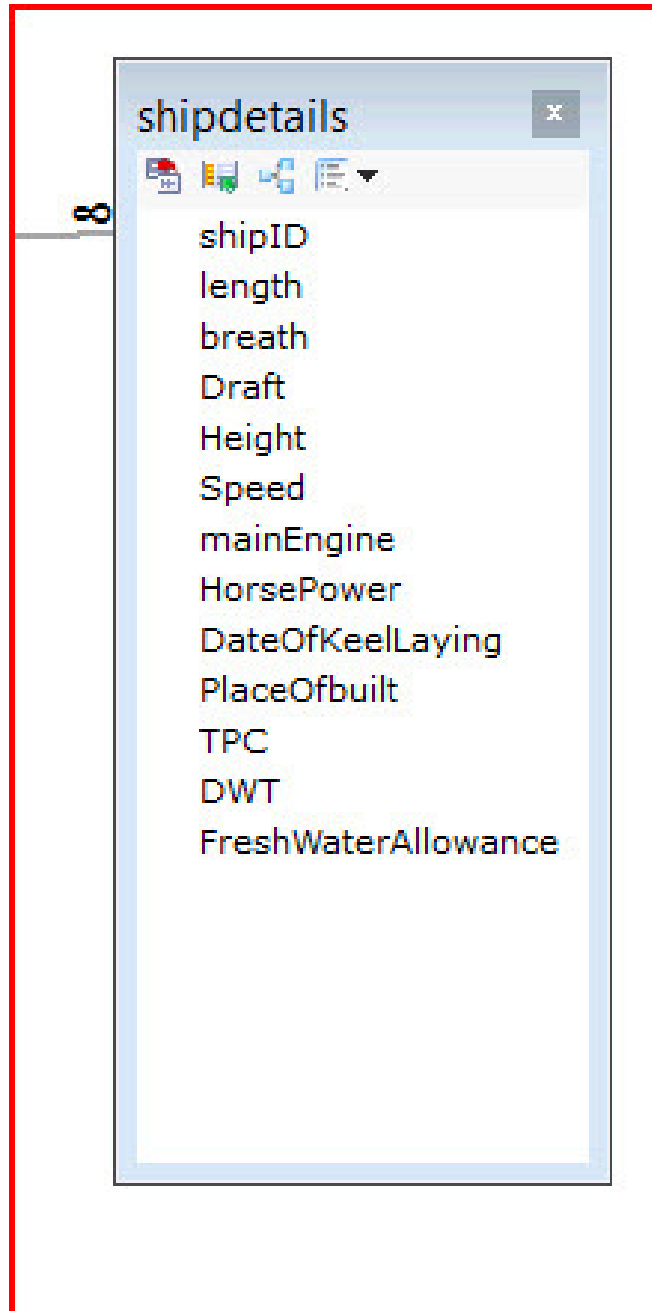
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, e

High Level Entity Relationship Diagram

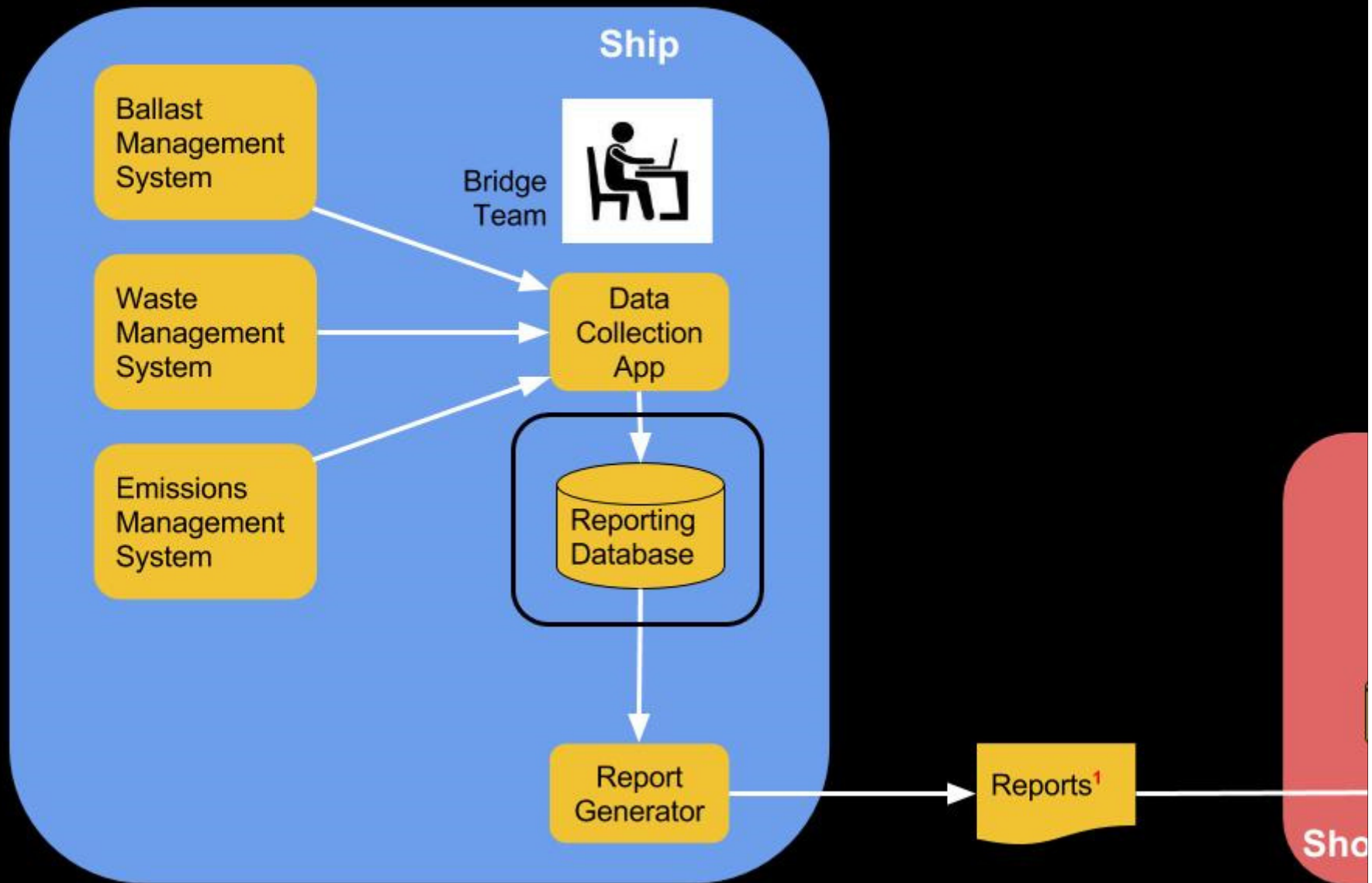


Proprietary Information



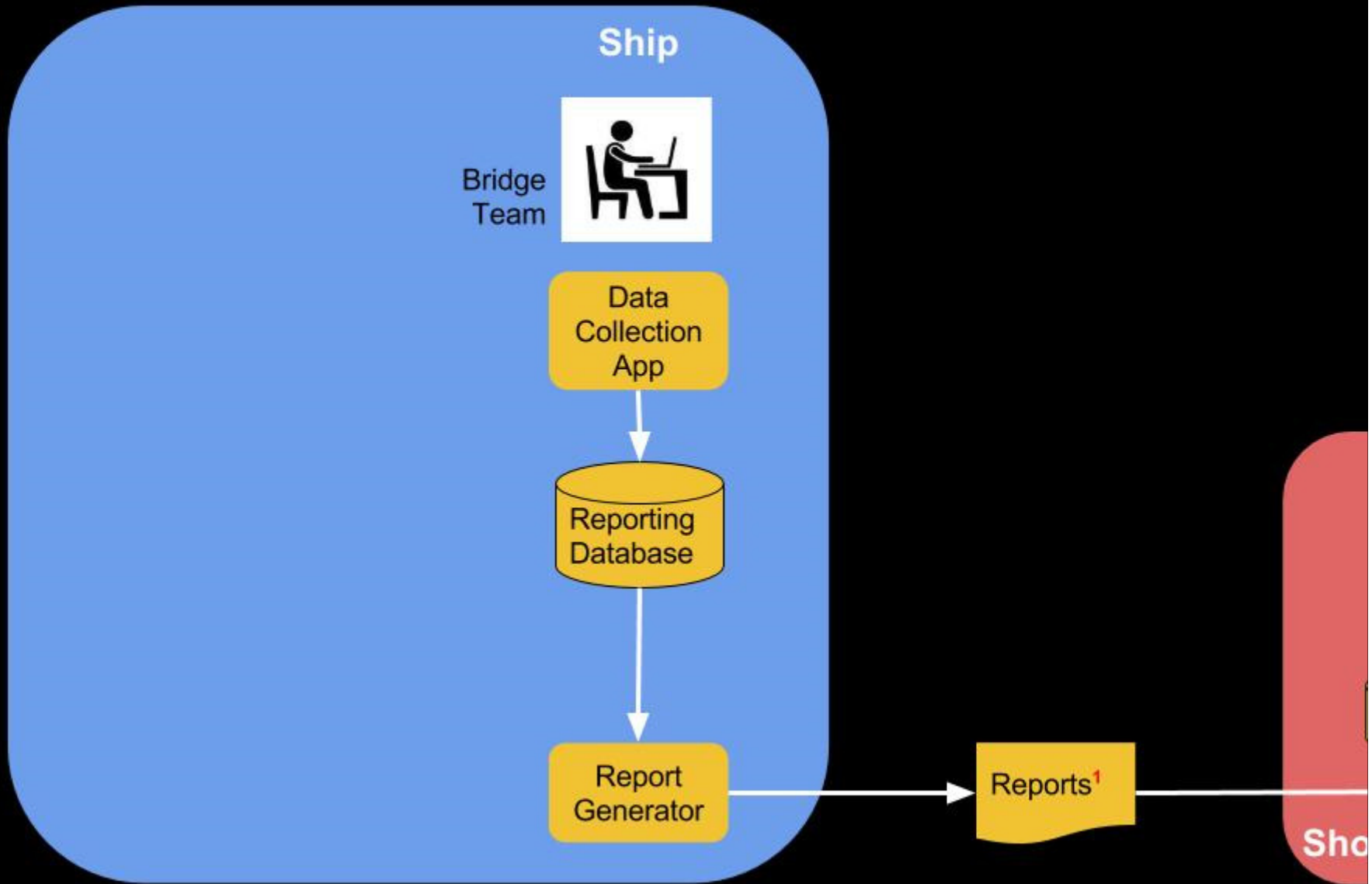


Scenario 1



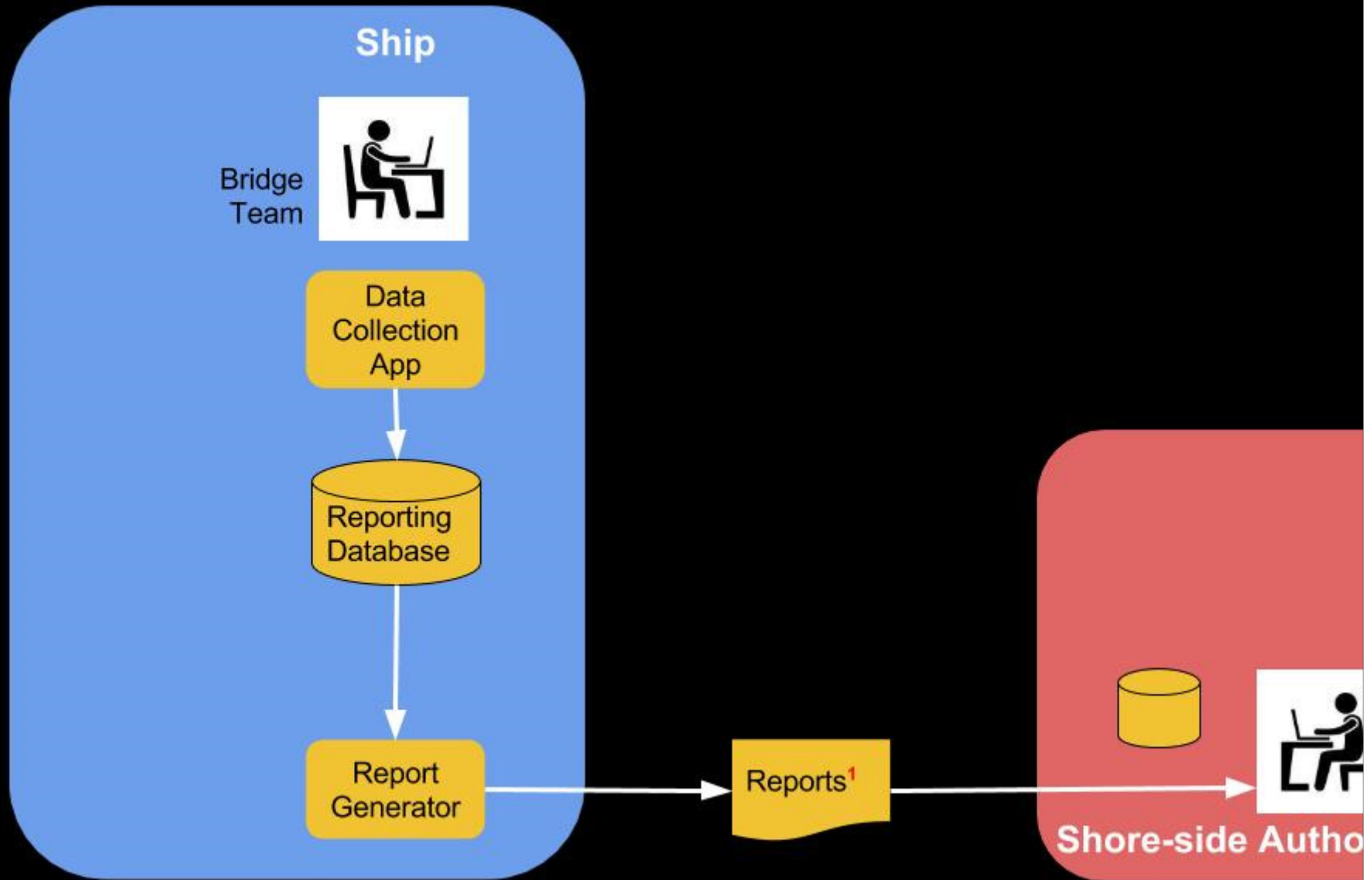
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Scenario 1



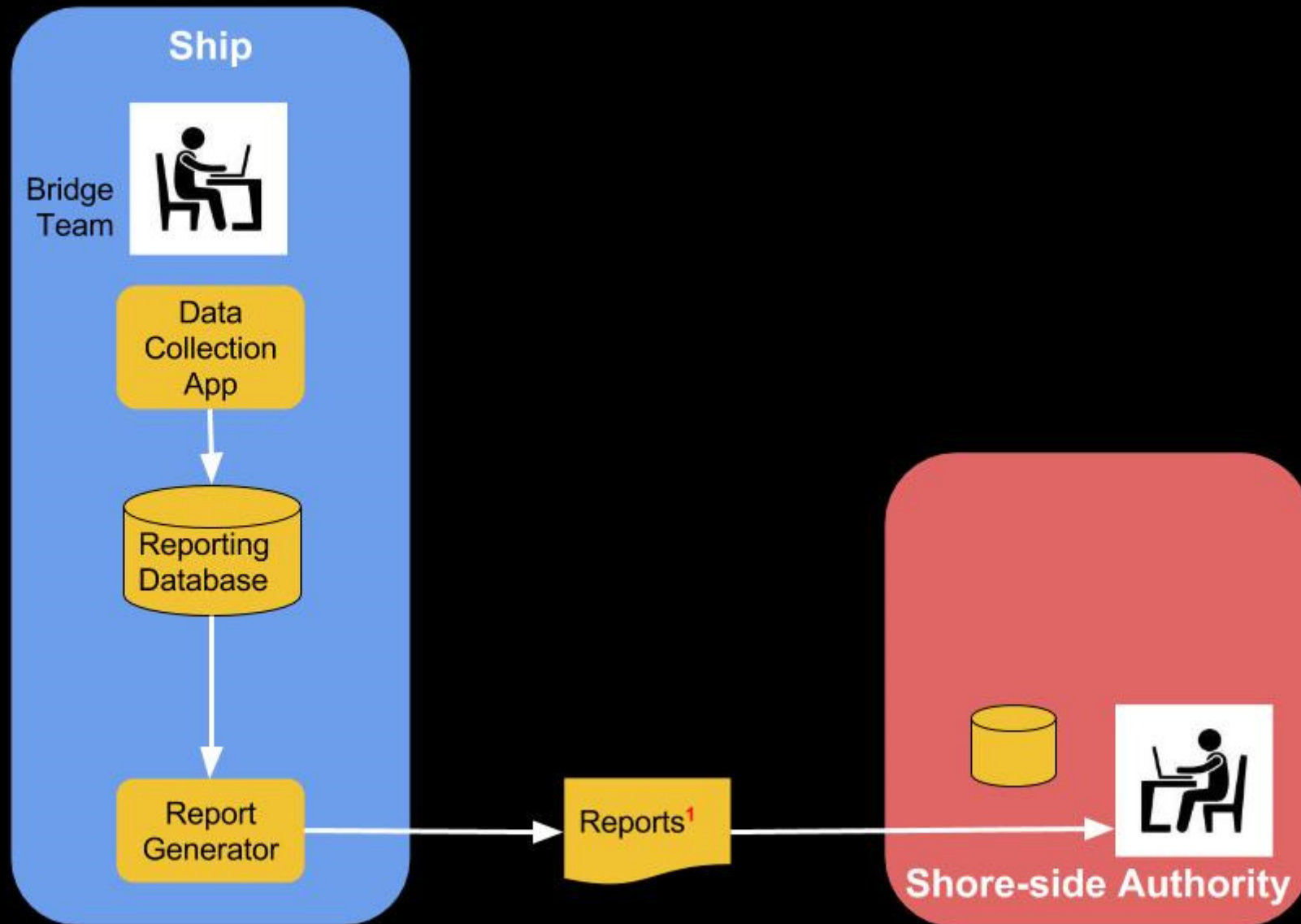
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Scenario 1



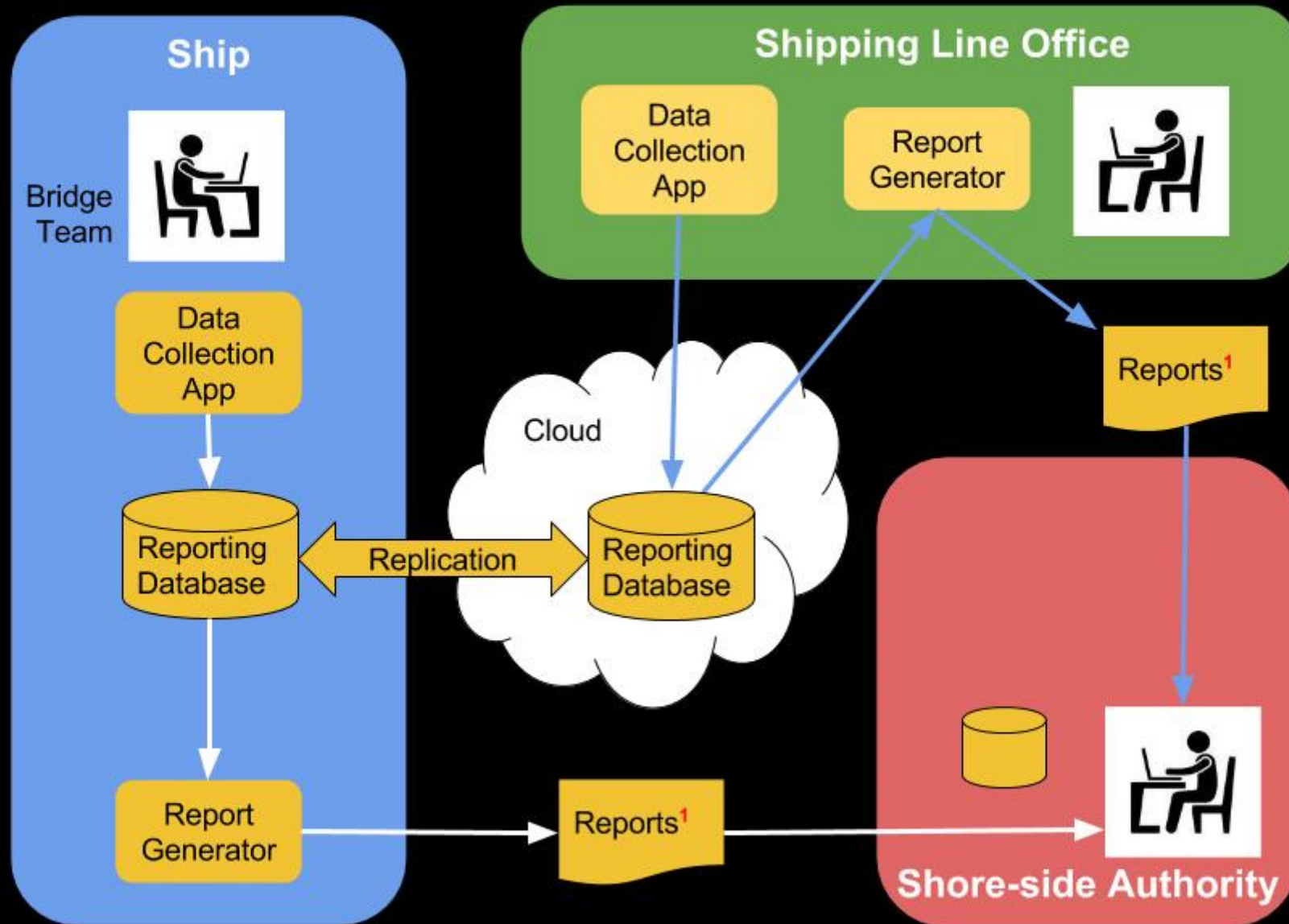
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 1



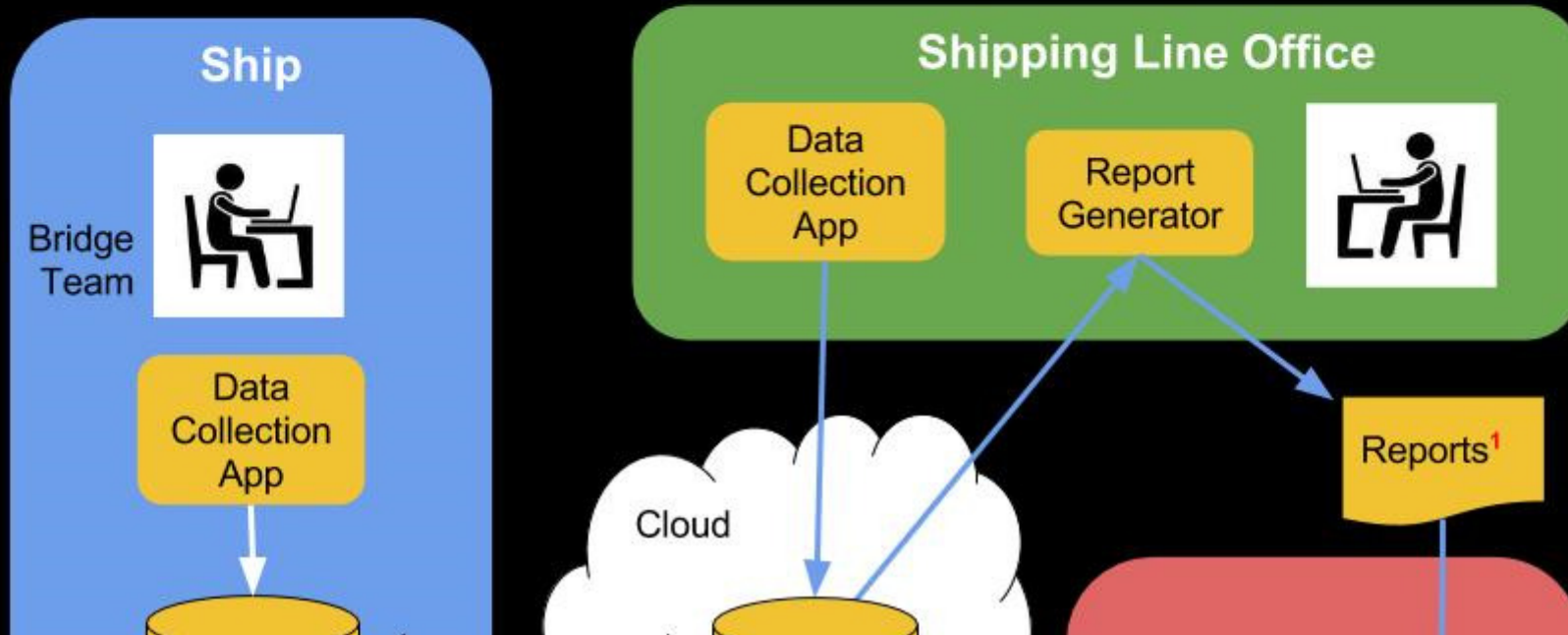
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Scenario 2

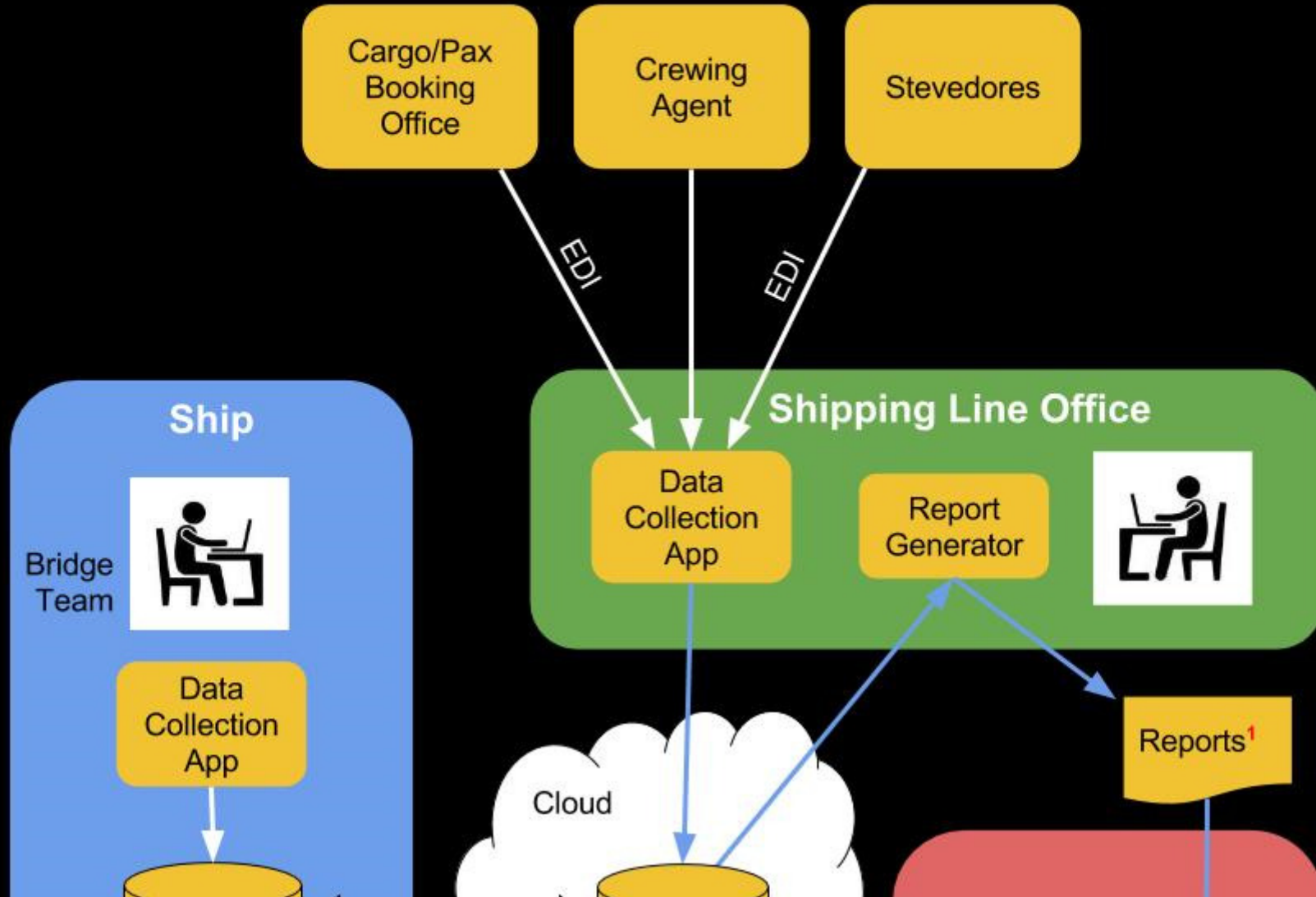


¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

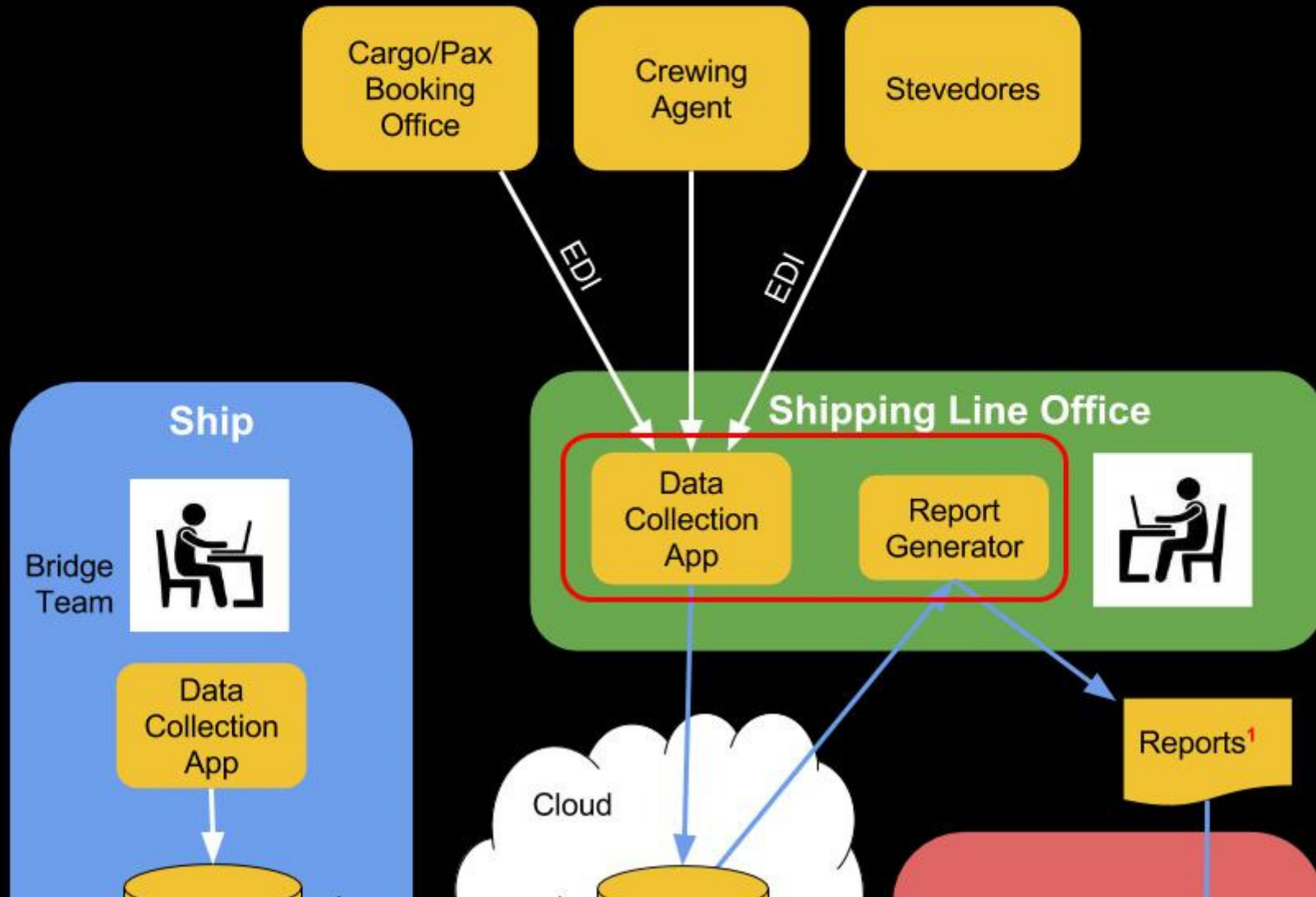
Scenario 2



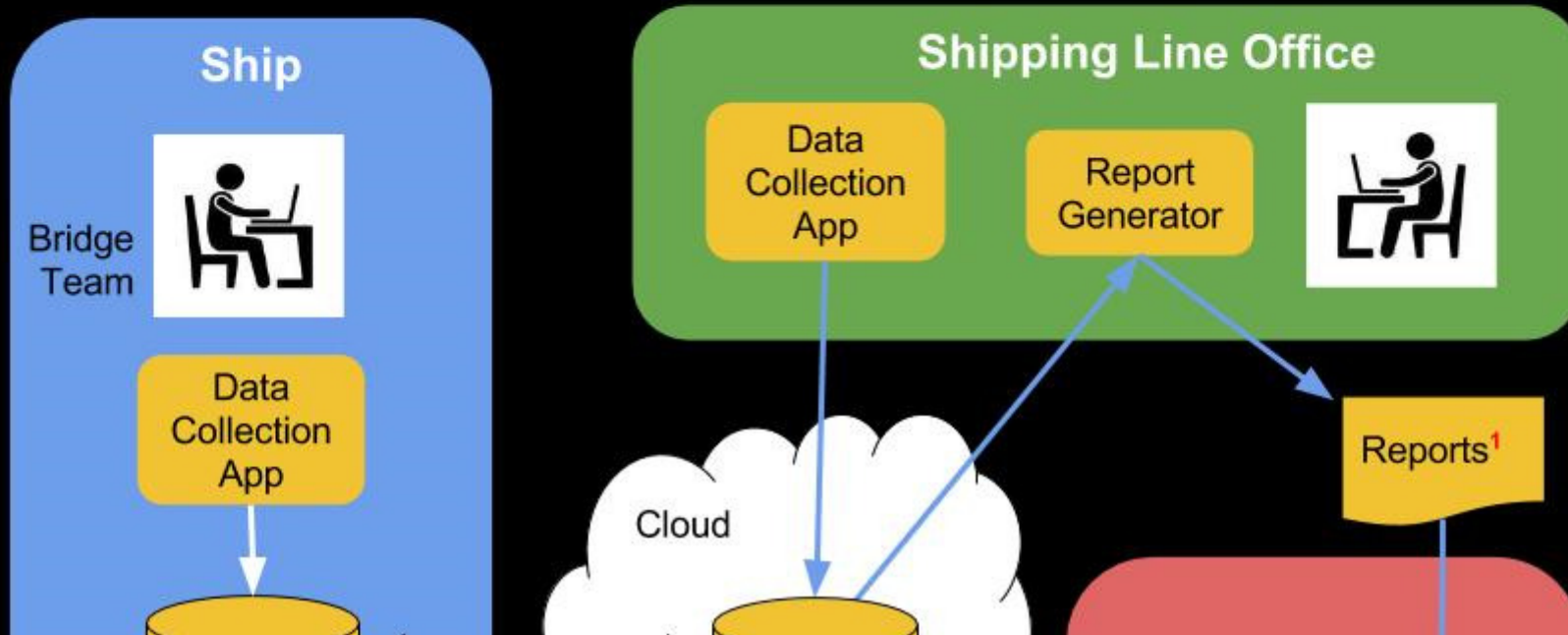
Scenario 2



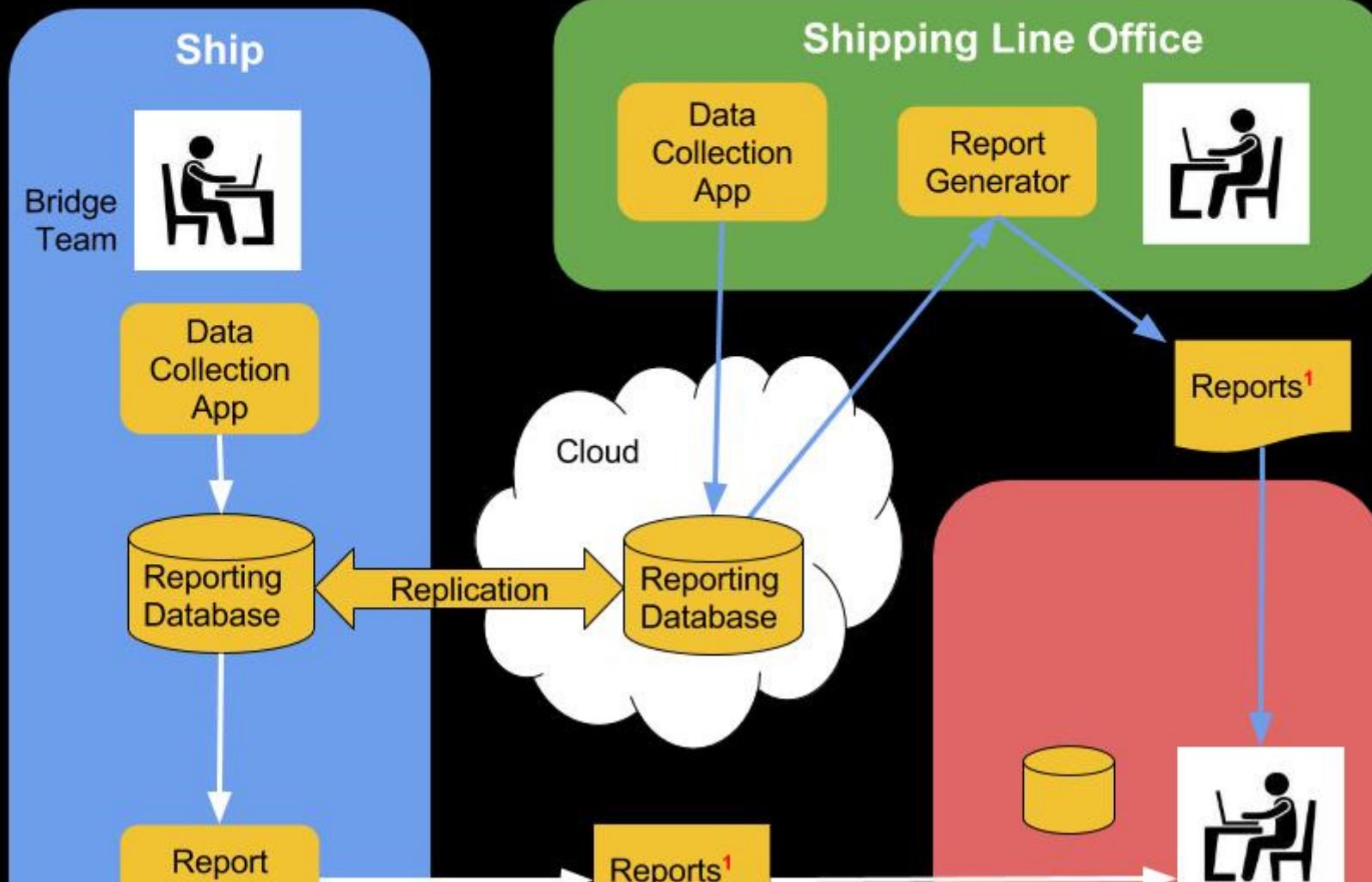
Scenario 2



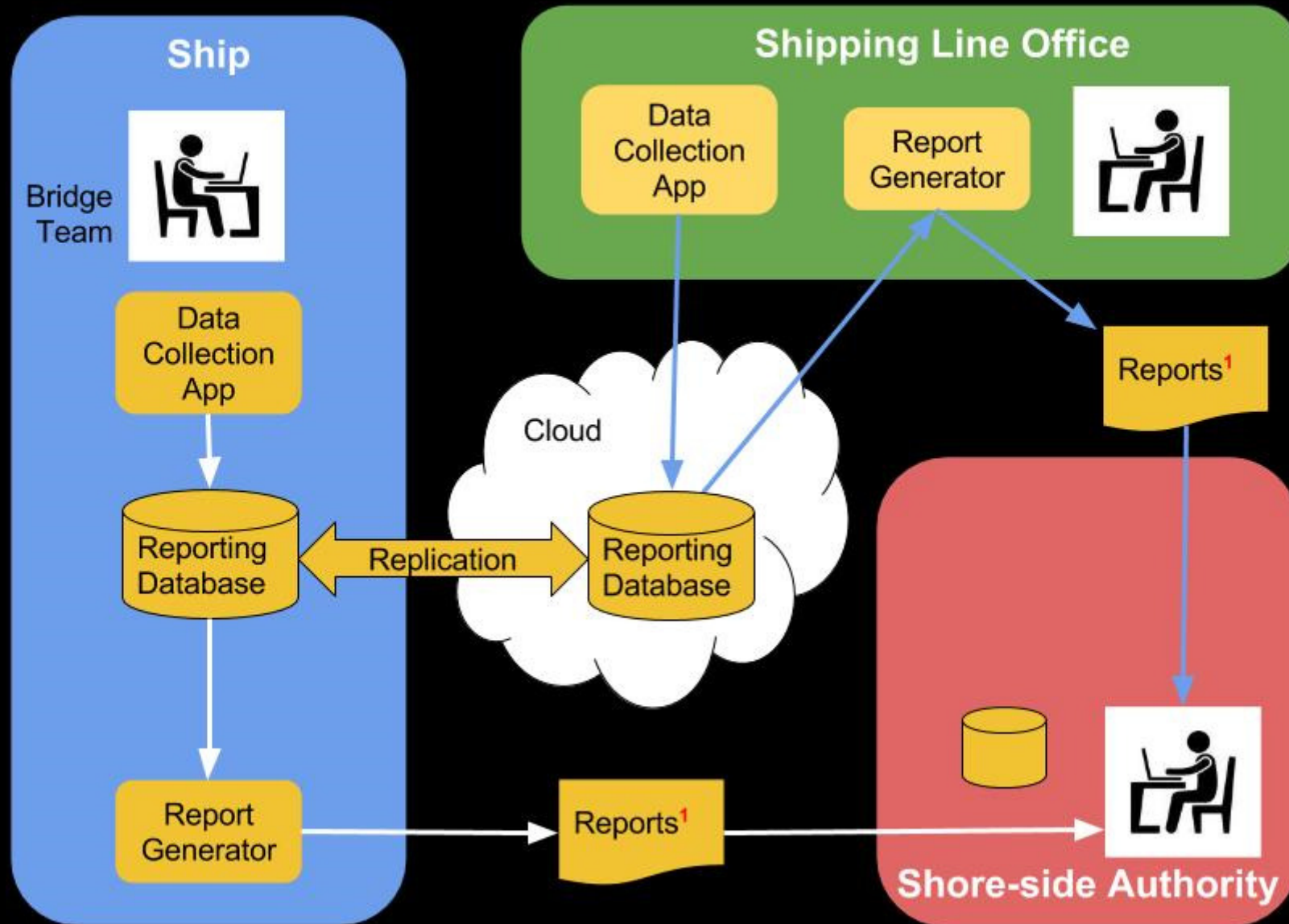
Scenario 2



Scenario 2

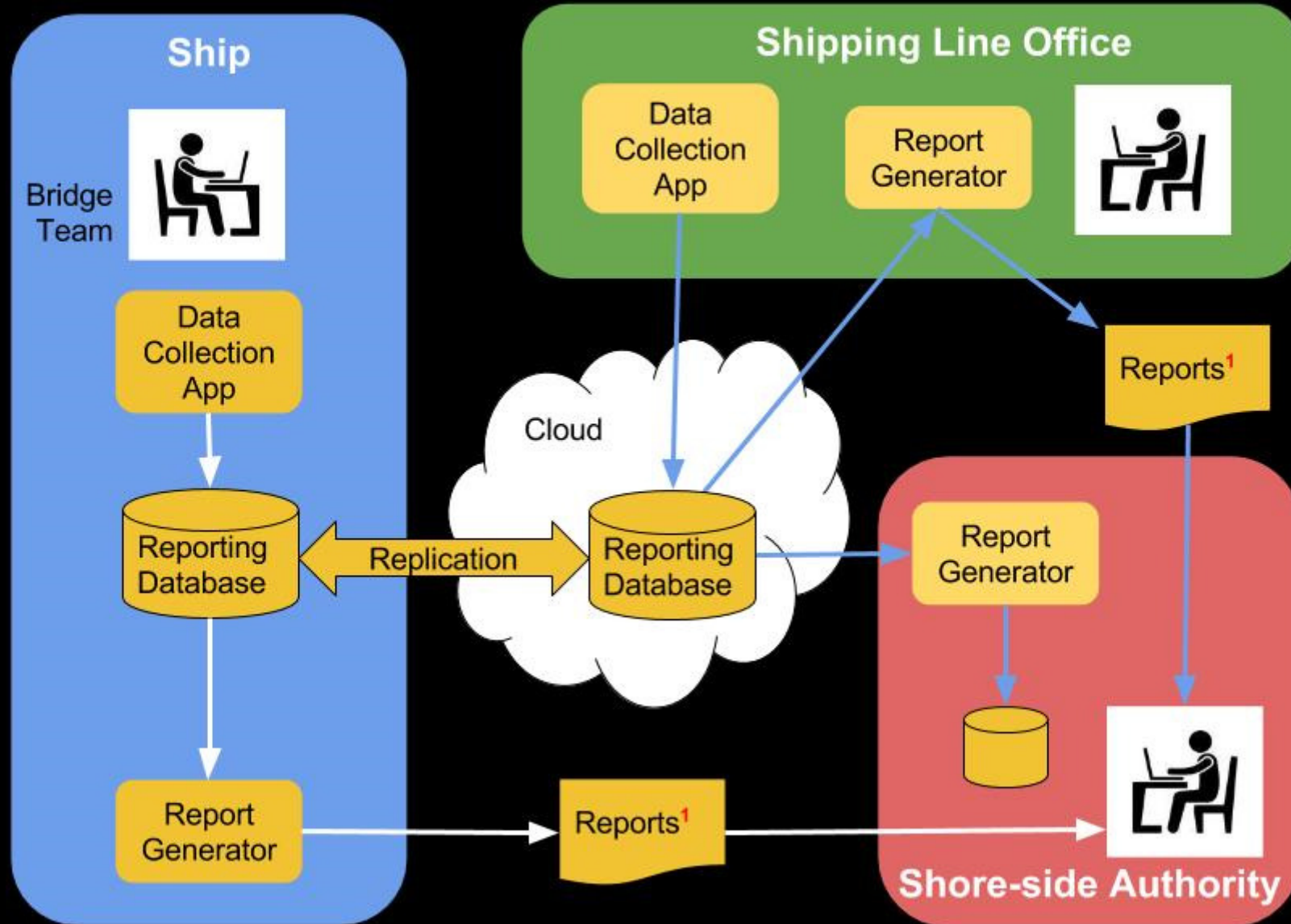


Scenario 2



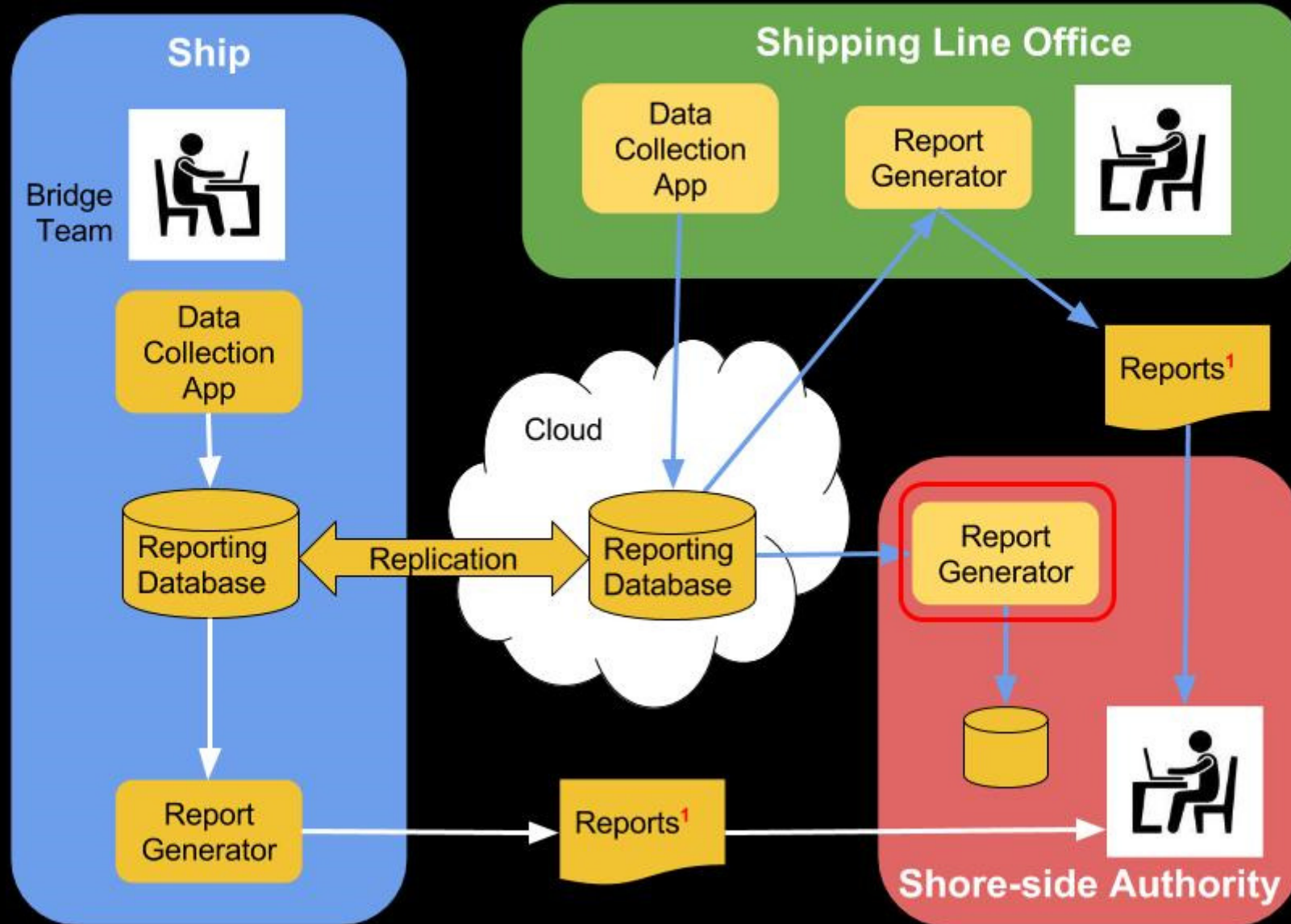
¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 3



¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Scenario 3



¹ Hard copy, FAX, PDF, XML, CSV, XLS, RTF, MS Word, etc.

Proposed Roadmap for roll-out of Automated Ship Reporting

1. IMO FAL Committee asks IALA & IEC to develop Ship Reporting Standards to create a viable “eco” system for reporting app developers
2. IALA identifies and categorizes Ship Reports in an open library with bi-annual updates
3. IALA designs and publishes the Reporting Database S-200 PS with bi-annual updates
4. IEC adopts emerging Internet of Things (IoT) standards for ship-board M2M interfaces
5. ICS/BIMCO set-up and administer access to the Reporting Database by authenticated users at the direction of individual shipping lines
6. ICS/BIMCO develops and publishes software that enable reporting app developers to “self-test” compliance with Ship Reporting Standards
7. Shipping Lines and 3rd party vendors develop and maintain reporting apps
8. Shore-side Authorities develop and maintain Reporting Database query tools

Thank you!

Questions?

VSRMS

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Ship Reporting Architecture Road Map

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