



ICAO BANGKOK

UNITING AVIATION

Testing the Exchange of IWXXM Messages

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Webinar on the implementation of the ICAO Meteorological
Information Exchange Model (IWXXM), 27-29 October 2020





Outline

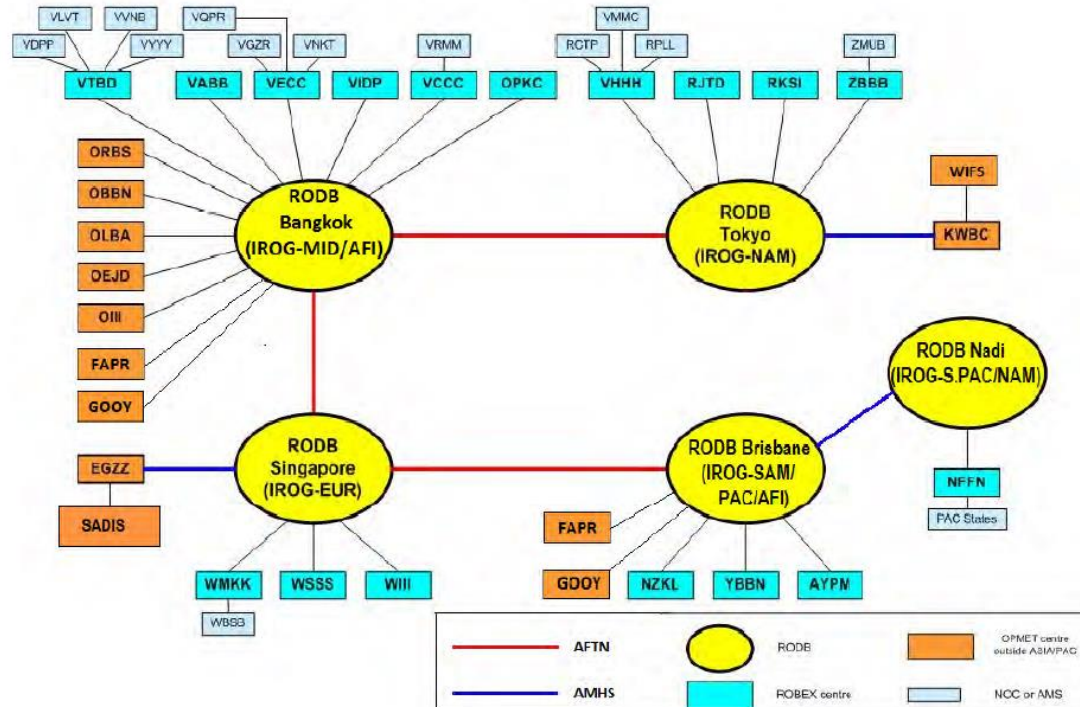
- IWXXM Message Generation
- Roles of Testers
- Conduct of Tests
- Review of Tests
- APAC RODBs Test Status



IWXXM Message Generation

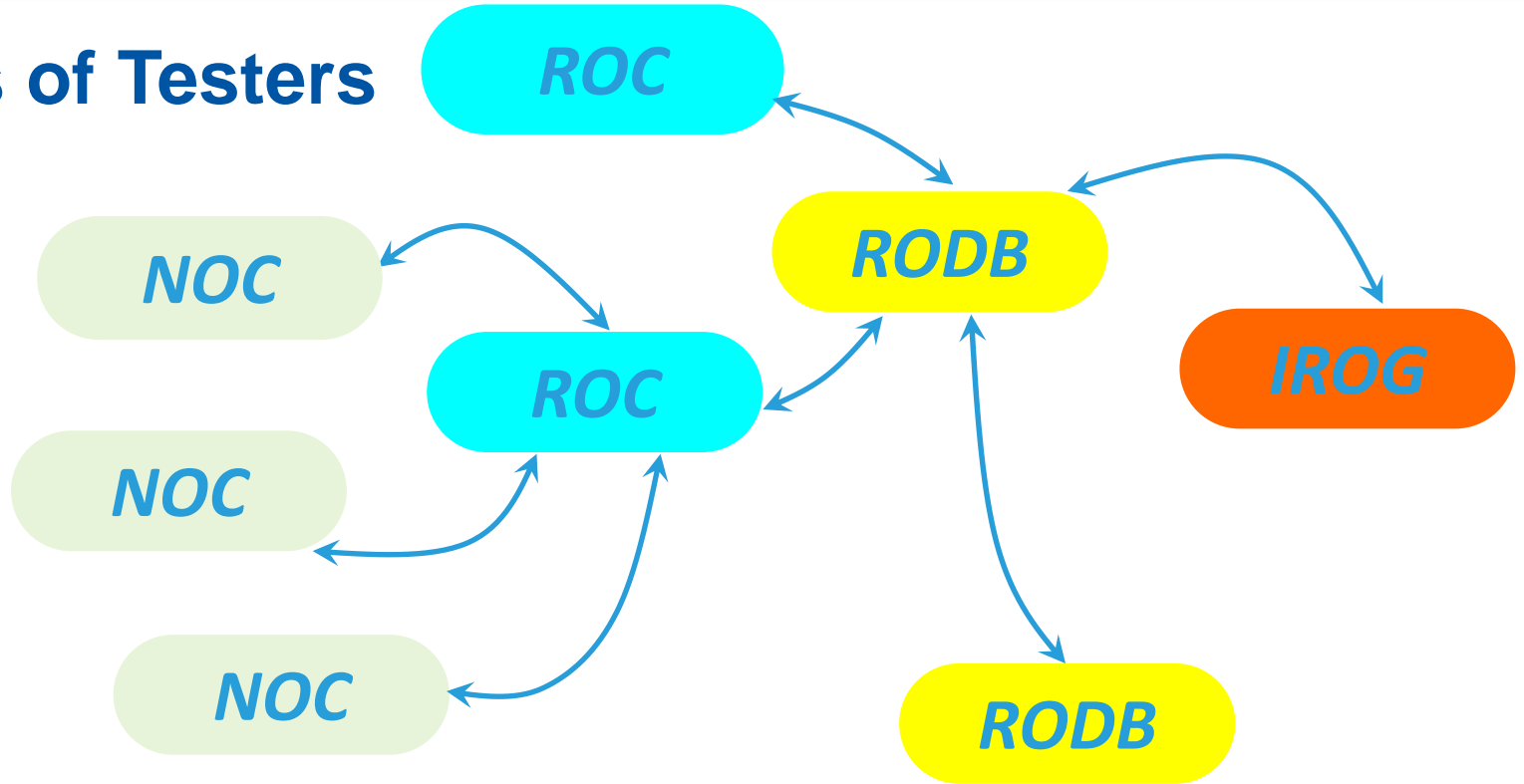


ROBEX Scheme



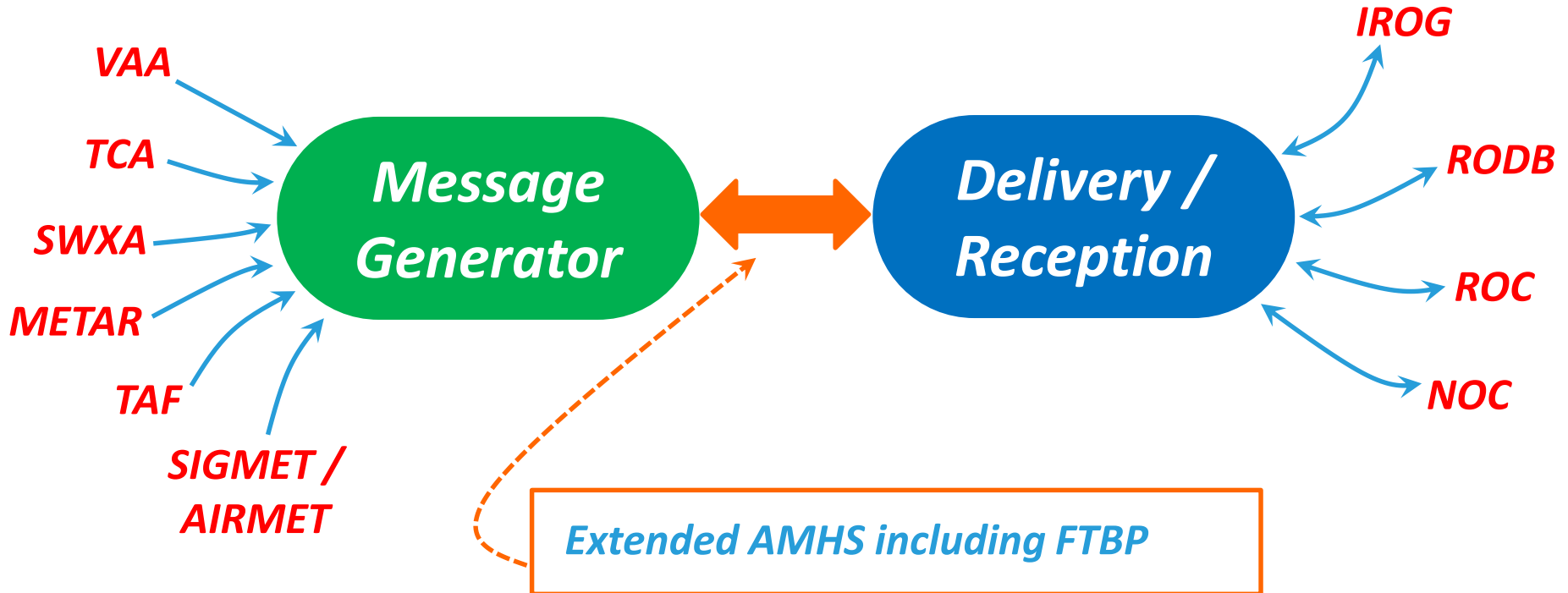


Roles of Testers





Communicator





Test Preparation

Coordination

- *MET and COM*

Identification

- *Potential Centres*

Connection

- *Between COM*
- *Link*

System

- *Message Transfer Agent (MTA)*
- *User Agent (UA)*

Validation

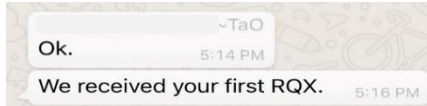
- *Sample Test Messages*

Document

- *AMHS Addresses*
- *Contacts*
- *Test Cases / Checklist*



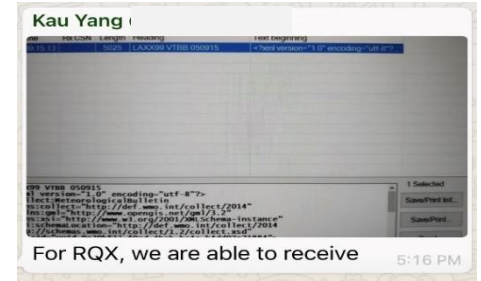
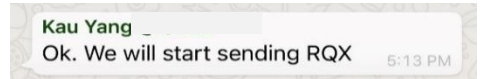
RODB Bangkok



AMHS and IWXXM Functionalities

- **Transmission of METAR, TAF, SIGMET bulletins and advisories in TAC and IWXXM**
- **Validation of the IWXXM bulletin format**
- **Handling of OPMET databank requests (RQM, RQX)**

RODB Singapore



Communication

- **Instant Messaging (WhatsApp, LINE, etc)**
- **Email**

IWXXM Message Exchange TAC Test between RODB Bangkok and RODB Singapore

II. Schedule and task list for the TAC and IWXXM message Test between Bangkok and Singapore:

TASK ID.	WHO? Responsible unit/s	WHAT? Detailed description of the task	WHEN? Date/Time indicated in the following format: YYYYMM02/02HHMM UTC
All type of OPMET Bulletin both TAC and IWXXM - 20200102/0600-1000			
METAR 01	Bangkok ROC	Send the SA TAC test bulletin (SAAE31 VTBB 020600) to Singapore	20201002/020605-0630
METAR 02	Bangkok ROC	Send the LA IWXXM test bulletin (LAAE31 VTBB 020600) to Singapore	20201002/020605-0630
METAR 03	Bangkok ROC	Send the retarded SA TAC test bulletin (SAAE31 VTBB 020600 RRX) if available to Singapore	20201002/020610-0630
METAR 04	Bangkok ROC	Send the retarded LA IWXXM test bulletin (LAAE31 VTBB 020600 RRX) if available to Singapore	20201002/020610-0630
METAR 05	Bangkok ROC	Send the corrected SA TAC test bulletin (SAAE31 VTBB 020600 CCX) if available to Singapore	20201002/020610-0630
METAR 06	Bangkok ROC	Send the corrected LA IWXXM test bulletin (LAAE31 VTBB 020600 CCX) if available to Singapore	20201002/020610-0630
METAR 07	Singapore ROC	Send the SA TAC test bulletin (SAMS31 WMKK 020600) to Bangkok	20201002/020605-0630
METAR 08	Singapore ROC	Send the LA IWXXM test bulletin (LAMS31 WMKK 020600) to Bangkok	20201002/020605-0630
METAR 09	Singapore ROC	Send the retarded SA TAC test bulletin (SAMS31 WMKK 020600 RRX) if available to Bangkok	20201002/020610-0630
METAR 10	Singapore ROC	Send the retarded LA IWXXM test bulletin (LAMS31 WMKK 020600 RRX) if available to Bangkok	20201002/020610-0630
METAR 11	Singapore ROC	Send the corrected SA TAC test bulletin (SAMS31 WMKK 020600 CCX) if available to Bangkok	20201002/020610-0630
METAR 12	Singapore ROC	Send the corrected LA IWXXM test bulletin (LAMS31 WMKK 020600 CCX) if available to Bangkok	20201002/020610-0630



Rx time	Rx CSN	Length	Heading	Text beginning
05 09 15 13	-	5025	LAXX99 VTBB 050915	<?xml version="1.0" encoding="utf-8"?

```

LAXX99 VTBB 050915
<?xml version="1.0" encoding="utf-8"?)
<collect:MeteorologicalBulletin
xmlns:collect="http://def.wmo.int/collect/2014"
xmlns:gml="http://www.opengis.net/gml/3.2"
xmlns: xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemalocation="http://def.wmo.int/collect/2014
http://schemas.wmo.int/collect/1.2/collect.xsd"
gml:id="uuid.9c39bf77-f9ad-4bab-be4e-b4dd02a21884">
<collect:meteorologicalInformation>
<iwxxm:METAR xmlns:iwxxm="http://icao.int/iwxxm/3.0"

```



Analysis

Exchange of Results

- *Identify issues to be addressed*

4. Reception of IWXXM from Singapore

There are Validation Errors found at AEROTHAI IWXXM OPMET System as following details:

4.1. [METAR]

- The element 'iwxxm:presentWeather' should be missing when there is no value.

4.2. [TAF]

- For the nil TAF, element 'iwxxm:validPeriod' should be missing.
- For the corrected TAF, the 'reportStatus' value should be 'CORRECTION' instead of 'NORMAL' for WSSS.

4.3. [WS and WV SIGMET]

- Incorrect sequence of child element of 'aixm:AirspaceTimeSlice'. It should be 'type' > 'designator' > 'name'.

4.4. [WC SIGMET]

- Incorrect sequence of child element of 'aixm:AirspaceTimeSlice'. It should be 'type' > 'designator' > 'name'.
- Missing attribute 'srsDimension' and 'axisLabels' on element 'aixm:Surface'.

4.5. [TC Advisory]

- Missing attribute 'reportStatus' on element 'iwxxm:TropicalCycloneAdvisory'.
- Missing element 'gml:validTime' before element 'aixm:interpretation'.

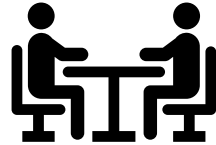


Frequently Encountered Issues



Translation / Message Generation

- *Format issue*
- *Compression issue*



System / Communication

- *Configuration Setting*
- *AMHS address*
- *Different OEMs*



Operational Disruptions

- *Controlled environment*
- *Bandwidth limitation*



APAC RODBs IWXXM Message Exchange Test Status

RODB	Test Conducted
Bangkok	Successfully conducted IWXXM exchange test with RODB Singapore on 2 and 5 Oct 2020
Brisbane	Successfully tested transmission with COM Centre Christchurch (New Zealand) on 10 Mar 2020
Nadi	Successfully tested the capability of the AMHS/AFTN system to transfer FTBP with Australia
Singapore	Successfully conducted IWXXM exchange test with RODB Bangkok on 2 and 5 Oct 2020
Tokyo	AMHS with FTBP test conducted between Japan's COM center (JCAB) and the US, Singapore and Hong Kong



APAC RODBs IWXXM Message Exchange Test Status

RODB	Planned Test
Bangkok	ROC Hong Kong in Oct 2020
Brisbane	RODB Singapore, RODB Nadi and ROC Wellington
Nadi	RODB Brisbane
Singapore	RODB Brisbane, RODB Tokyo, ROC Jakarta, ROC Kuala Lumpur and ROC London in Nov 2020
Tokyo	RODB Singapore and Washington in Nov 2020



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Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU