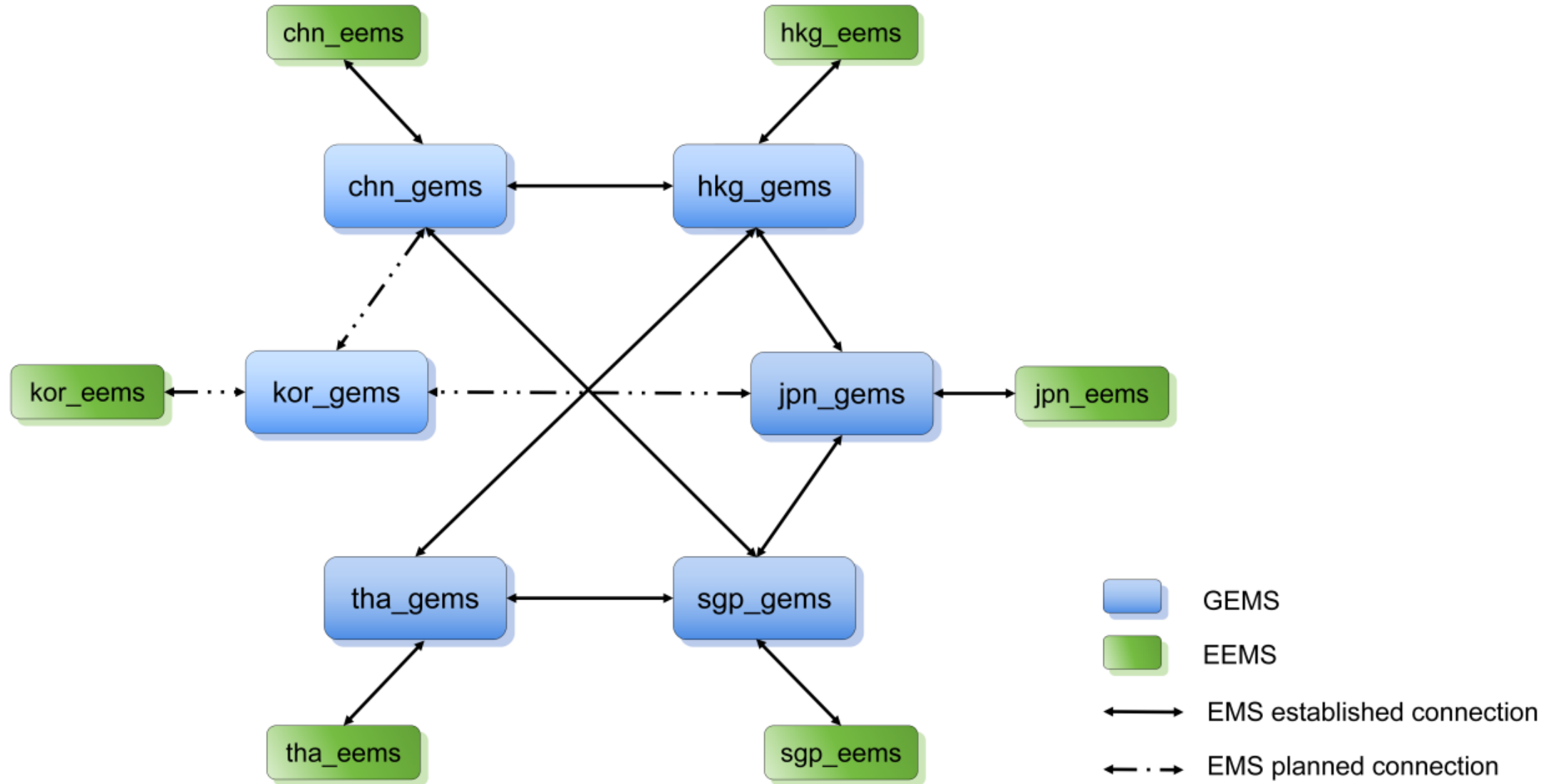


SIPG Architecture



Topic Routing

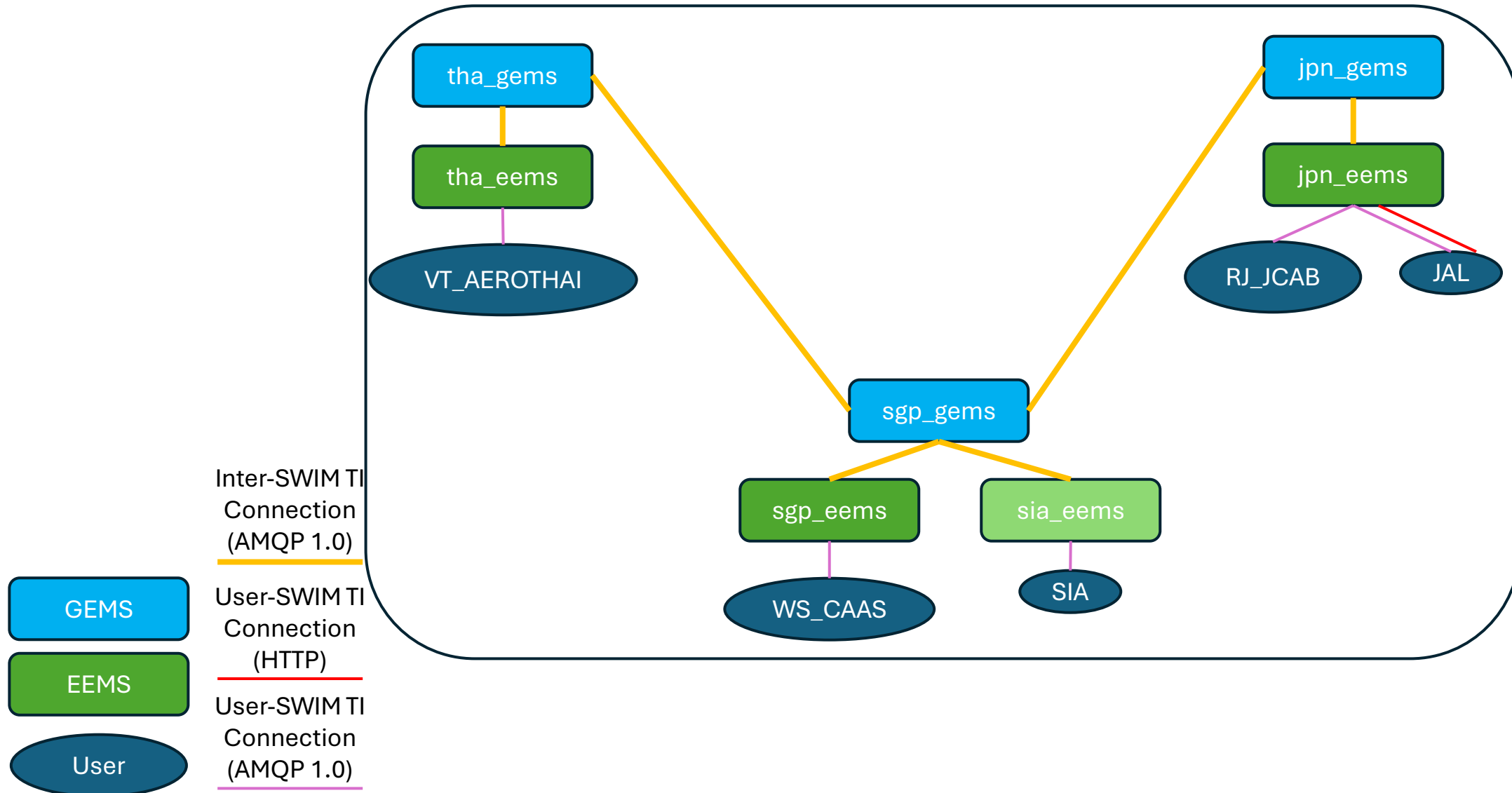
- Purpose

- Show topic routing with the SIPG architecture

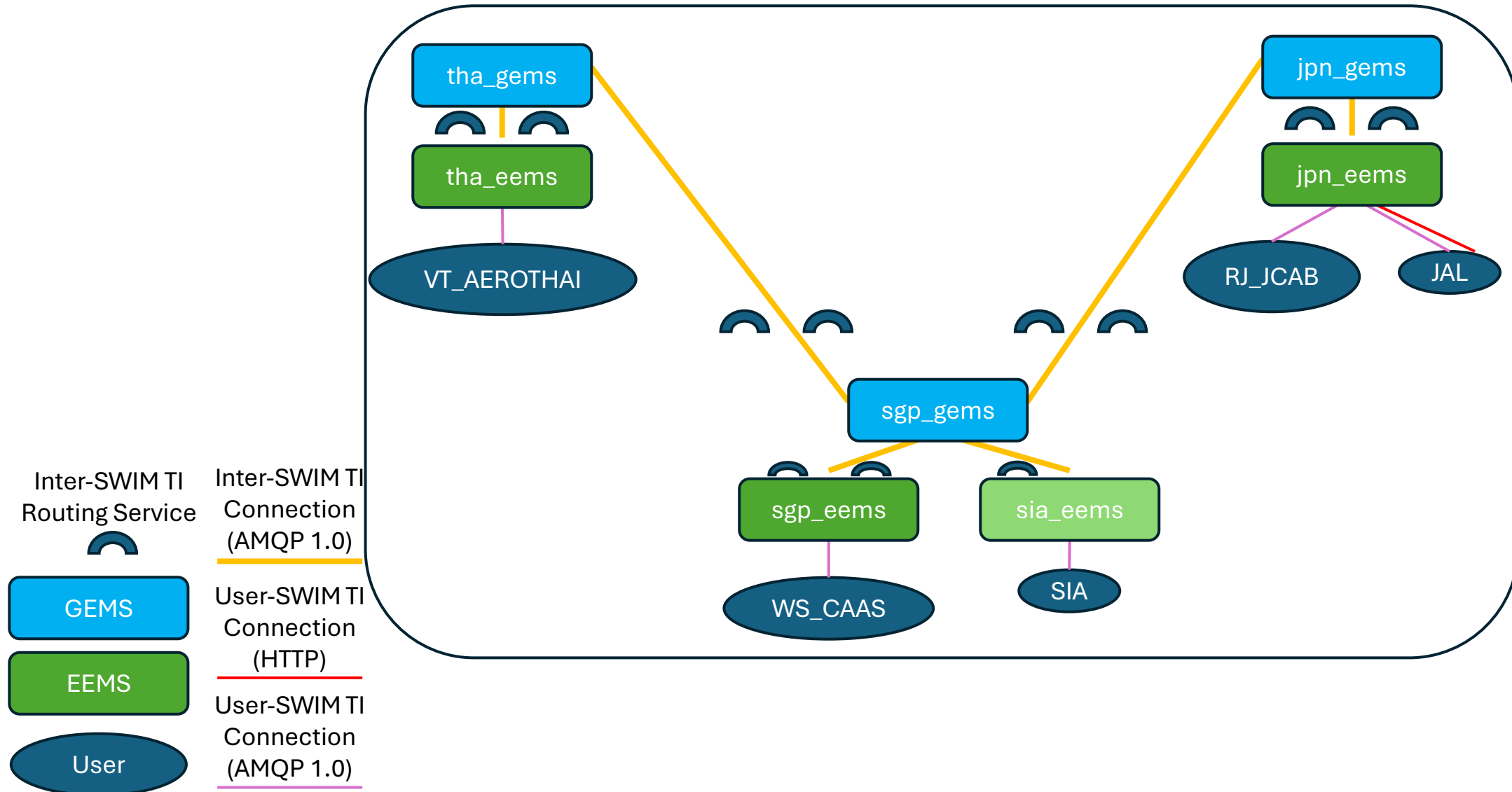
- Environment

- V1 (Laptop)
 - 3 Edge EMSes
 - 3 Gateway EMSes
 - Bridge services between EMSes as depicted
 - Topic Model 1
 - EMS Queues and Topic Subscriptions
 - Solace, RabbitMQ, Artemis

SIPG Partial Architecture (Laptop)



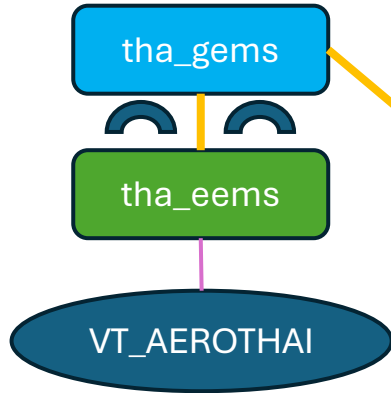
SIPG Partial Architecture - Bridges (FFICE)



SIPG Partial Architecture – Queues (FFICE)

APAC.Gateway.THA.to.Edge.THA.Domain.FFICE.TEST

APAC.Gateway.THA.to.Gateway.SGP.Domain.FFICE.TEST

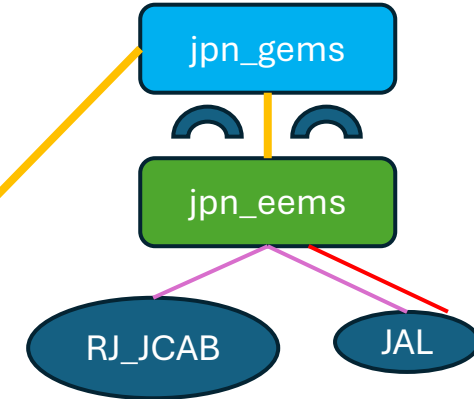


APAC.Edge.THA.to.Gateway.THA.Domain.FFICE.TEST

APAC.Edge.THA.to.VT_AEROTHAI.Domain.FFICE.TEST

APAC.Gateway.JPN.to.Edge.JPN.Domain.FFICE.TEST

APAC.Gateway.JPN.to.Gateway.SGP.Domain.FFICE.TEST



APAC.Edge.JPN.to.Gateway.JPN.Domain.FFICE.TEST

APAC.Edge.JPN.to.RJ_JAL.Domain.FFICE.TEST

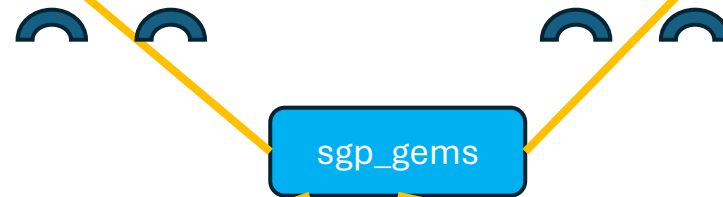
APAC.Edge.JPN.to.RJ_JCAB.Domain.FFICE.TEST

APAC.Gateway.SGP.to.Edge.SGP.Domain.FFICE.TEST

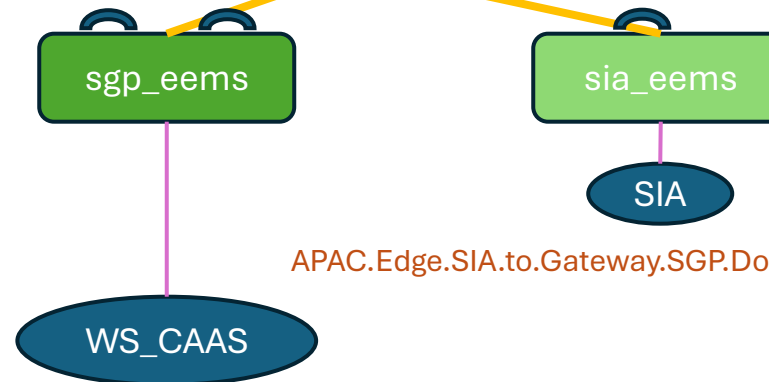
APAC.Gateway.SGP.to.Edge.SIA.Domain.FFICE.TEST

APAC.Gateway.SGP.to.Gateway.JPN.Domain.FFICE.TEST

APAC.Gateway.SGP.to.Gateway.THA.Domain.FFICE.TEST



APAC.Edge.SIA.to.Gateway.SGP.Domain.FFICE.TEST



APAC.Edge.SGP.to.Gateway.SGP.Domain.FFICE.TEST

APAC.Edge.SGP.to.WS_CAAS.Domain.FFICE.TEST

Queue

Inter-SWIM TI
Routing Service



Inter-SWIM TI
Connection
(AMQP 1.0)

User-SWIM TI
Connection
(HTTP)

User-SWIM TI
Connection
(AMQP 1.0)

GEMS

EEMS

User



Topic Routing

- Purpose
 - Show topic routing with the SIPG architecture
- Environment
 - V2 (AWS)
 - 6 SIPG Edge EMSes
 - 6 Gateway EMSes
 - Bridge services between EMSes as depicted
 - Topic Model 1
 - EMS Queues and Topic Subscriptions
 - Solace, RabbitMQ, Artemis
 - TLS

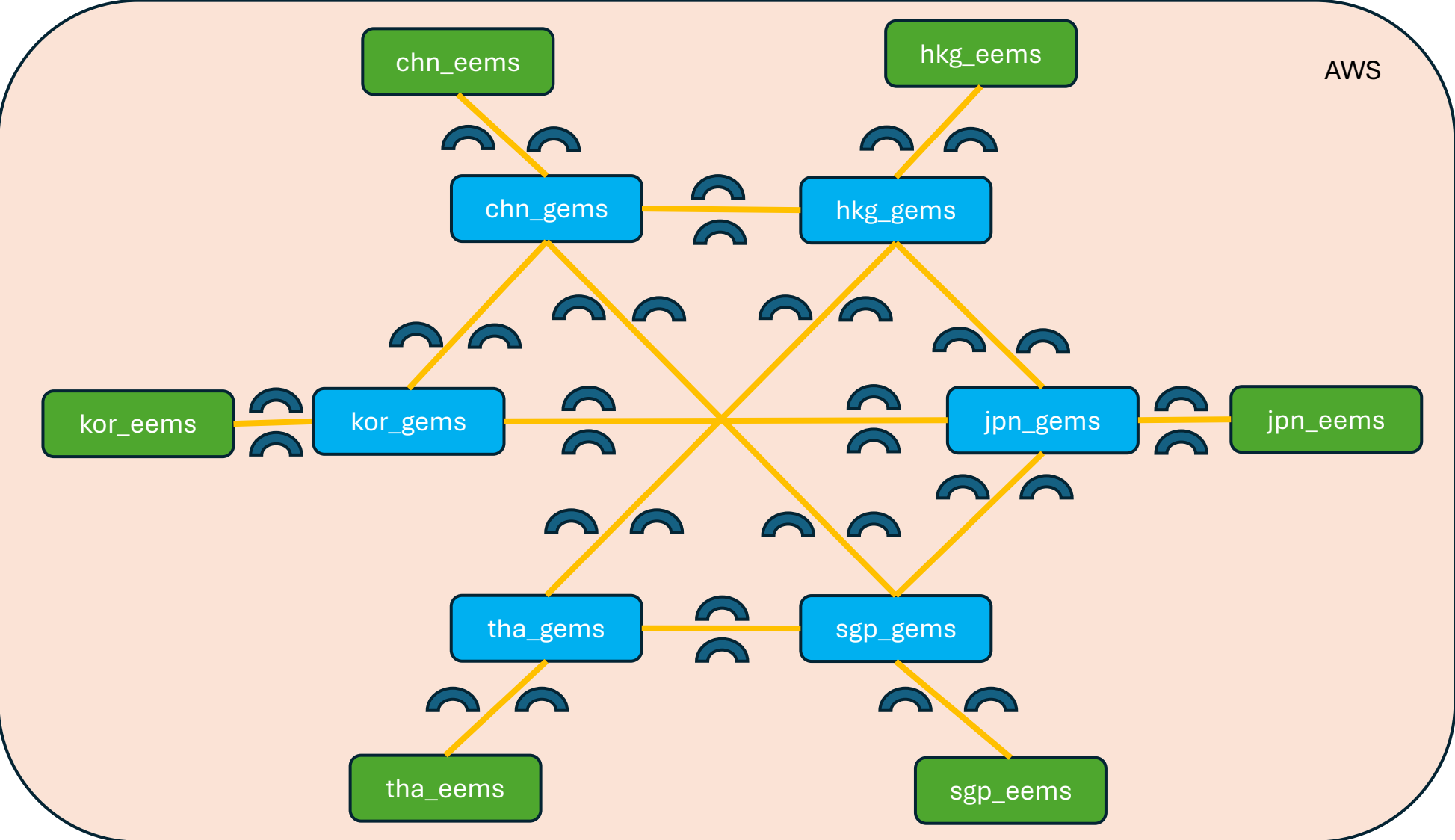
SIPG Architecture (AWS) – Bridges (FFICE)

- Inter-SWIM TI Routing Service
- Inter-SWIM TI Connection (AMQP 1.0)
- User-SWIM TI Connection (HTTP)
- User-SWIM TI Connection (AMQP 1.0)

GEMS

EEMS

User



Topic Model 1

Level	Name	Example	Notes
1	Topic Model Name	sipg	Topic model identification
2	Topic Model Version	1	Topic model life cycle management
3	Source Domain	ICAO	ID Registrar
4	Source Domain Id	WS_CAAS	EEMS Id
5	Source User Id	WS_CAAS, WS_SIA	User Id
6	Environment	TEST	Context
7	Capability	FFICE	Context
8	Capability Version	1	Context
9	Recipient Domain	ICAO	ID Registrar
10	Recipient Domain Id	RJ_JCAB	EEMS Id
11	Recipient User Id	RJ_JAL	User Id
12	Suffix	RJJJ/...	Info Domain and/or Information Service-specific

eFPL Filing

- Purpose
 - FF-ICE/R1 Filing Information Service
- Environment
 - AWS
 - Topic Model 1
 - MEP: Pub-Sub
- Demo


Source Domain	ICAO
Source Id	WS_CAAS
Source User Id	WS_SIA
Recipient Domain	ICAO
Recipient Id	WS_CAAS
Recipient User Id	WS_CAAS
FIR	WSJC




Responses

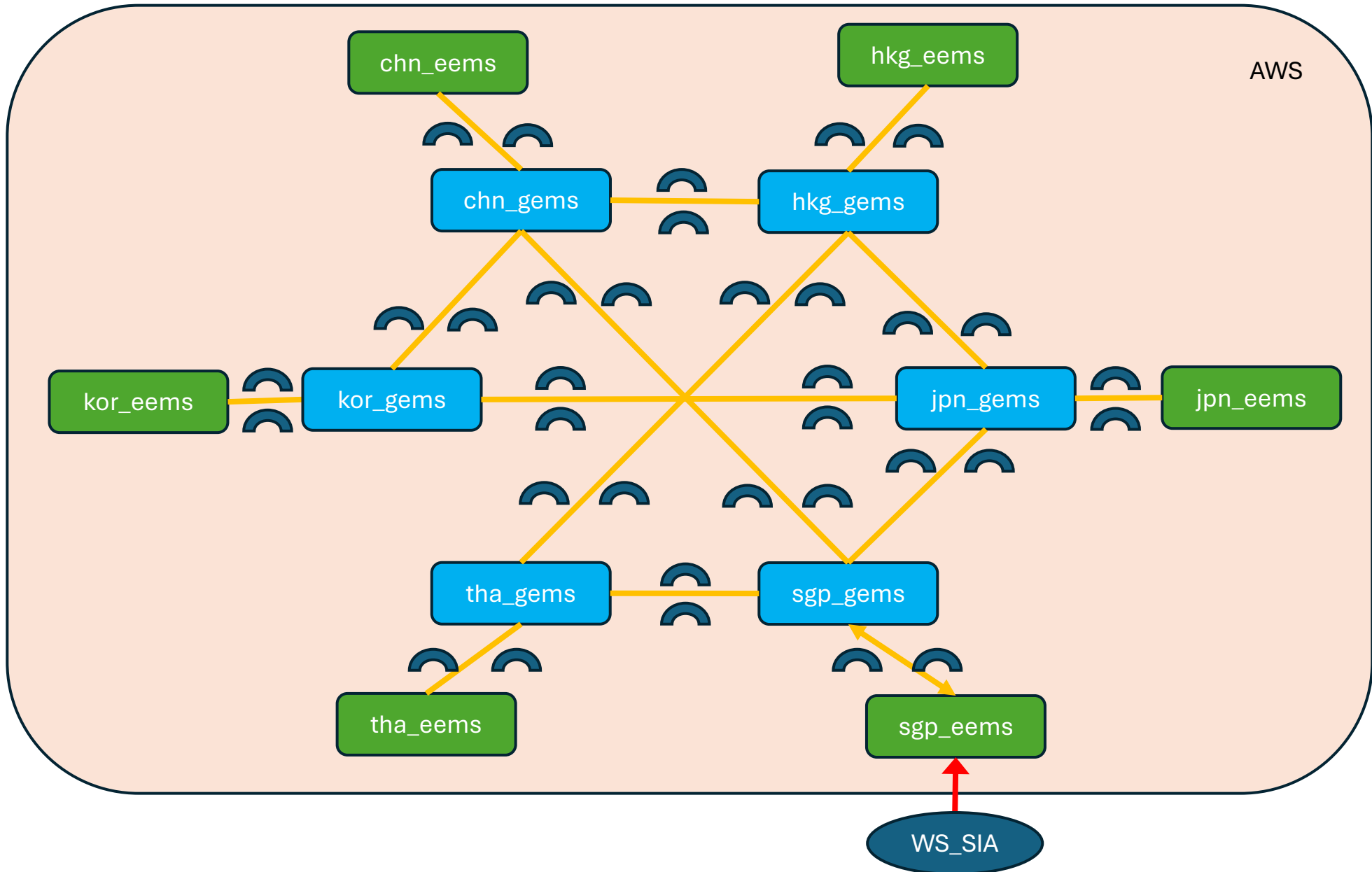
Topic: sipg/1/ICAO/WS_CAAS/WS_CAAS/TEST/FFICE/1/ICAO/WS_CAAS/WS_SIA

Topic	
TopicModel	sipg
Version	1
SourceDomain	ICAO
SourceId	WS_CAAS
SourceUser	WS_CAAS
Domain	TEST
RequestType	FFICE
MessageType	1
Event	ICAO
RecipientDomain	WS_CAAS
RecipientId	WS_SIA
RecipientUser	NA

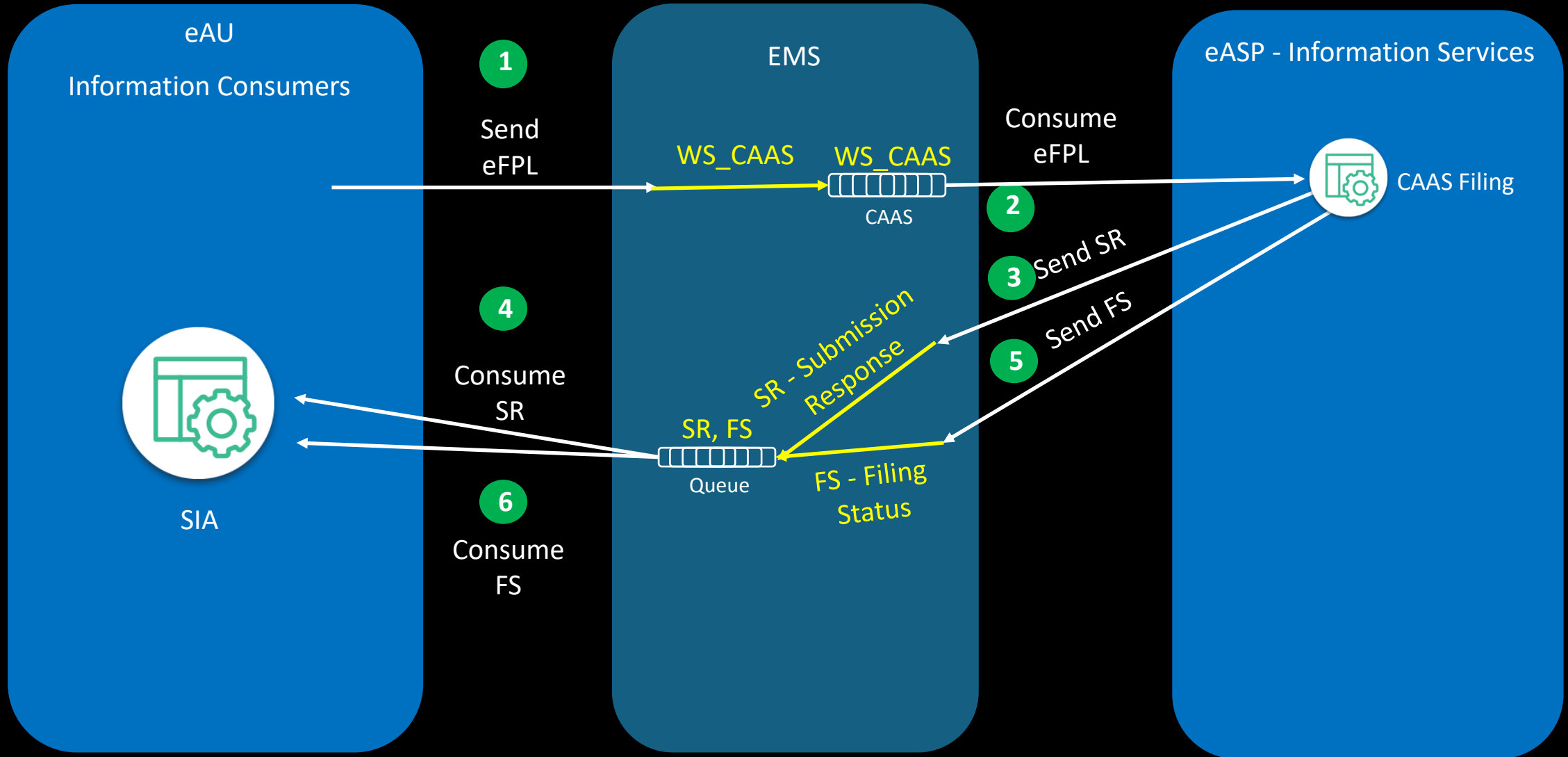
SIPG Architecture (AWS) – Bridges (FFICE)

Inter-SWIM TI
Routing Service

Inter-SWIM TI
Connection
(AMQP 1.0)
Yellow line icon
User-SWIM TI
Connection
(HTTP)
Red line icon
User-SWIM TI
Connection
(AMQP 1.0)
Purple line icon

 GEMS
 EEMS
 User



Message Routing (Recipient) – FFP with CAAS



Topic Model 2

Level	Name	Example	Notes
1	Topic Model Name	sipg	Topic model identification
2	Topic Model Version	2	Topic model life cycle management
3	Source Domain	ICAO	ID Registrar
4	Source Domain Id	WS_CAAS	EEMS Id
5	Source User Id	WS_CAAS, WS_SIA	User Id
6	Environment	TEST	Context
7	Information Domain	FLT	Context
8	Capability	FFICE	Context
9	Capability Version	1	Context
10	Request Type	FLIGHT_PLAN	Context
11	Message Type	FFP	Context
12	Event	N	Context
13	Recipient Domain	ICAO	ID Registrar
14	Recipient Domain Id	RJ_JCAB	EEMS Id
15	Recipient User Id	RJ_JAL	User Id
16	System-Specific	RJJJ/...	Info Domain and/or Information Service-specific