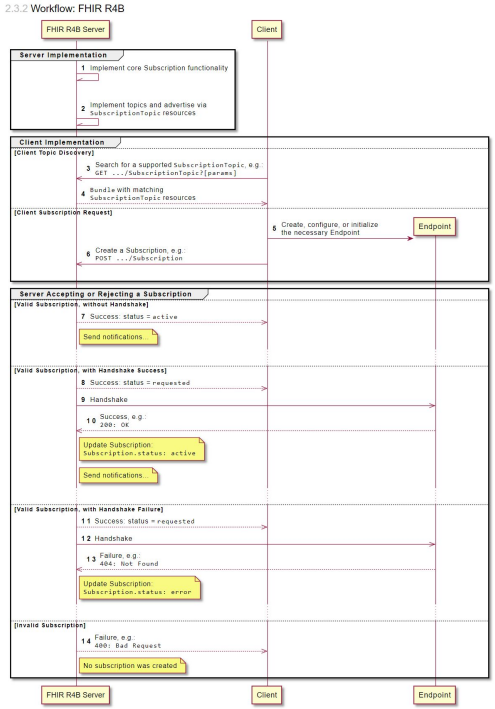
DSUBm

Analysis of FHIR Subscription Backport

15/05/2023

DSUBm

Subscriptions Backport - starting point



DUSBm
https://github.com/IHE/ITI.DSUBm

during last meeting (in F2F) has been decided to consider FHIR R4B.

For the subscription in FHIR it is available the Subscriptions Backport IG

In this presentation we prepared some general consideration between DSUBm and backport.

See the R4B workflow of backport:
http://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/workflow.html#workflow-fhir-r4b
http://hl7.org/fhir/R4B/subscriptiontopic.html
http://hl7.org/fhir/R4B/subscription.html

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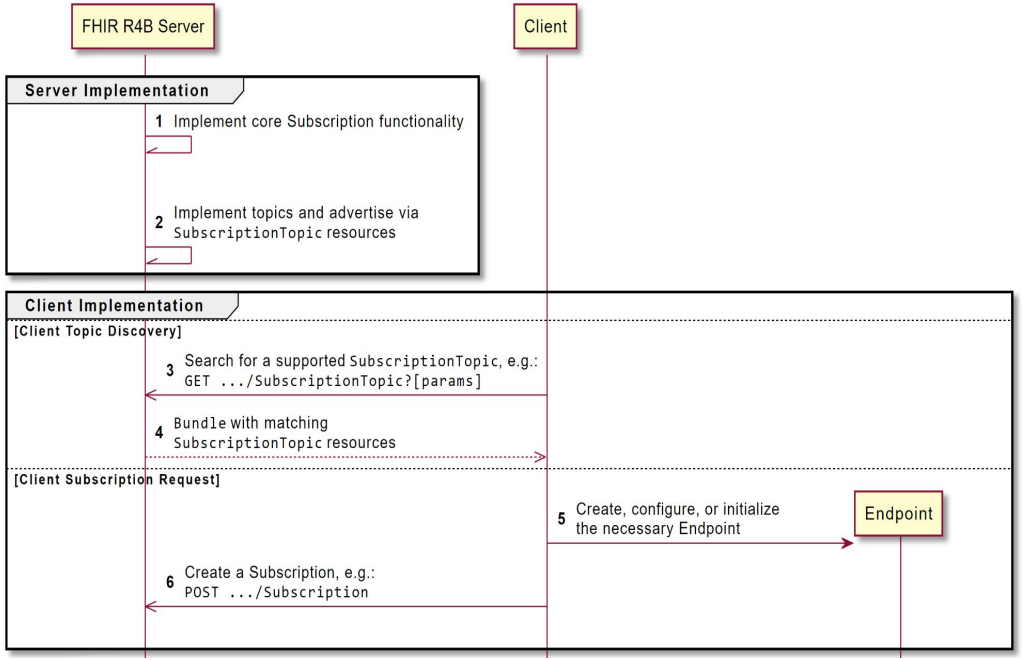
Subscriptions Backport - General Considerations

2.3.2 Workflow: FHIR R4B



… continues in next slide

Subscriptions R5 Backport introduced SubscriptionTopic discovery (see **3** and **4**) before Subscription creation.

Conformance in FHIR R4B for backport

In order to claim conformance with this guide, a **server**:

- SHALL support the Subscription resource (read/write).
  …
- **SHALL support the SubscriptionTopic resource (read/search).**

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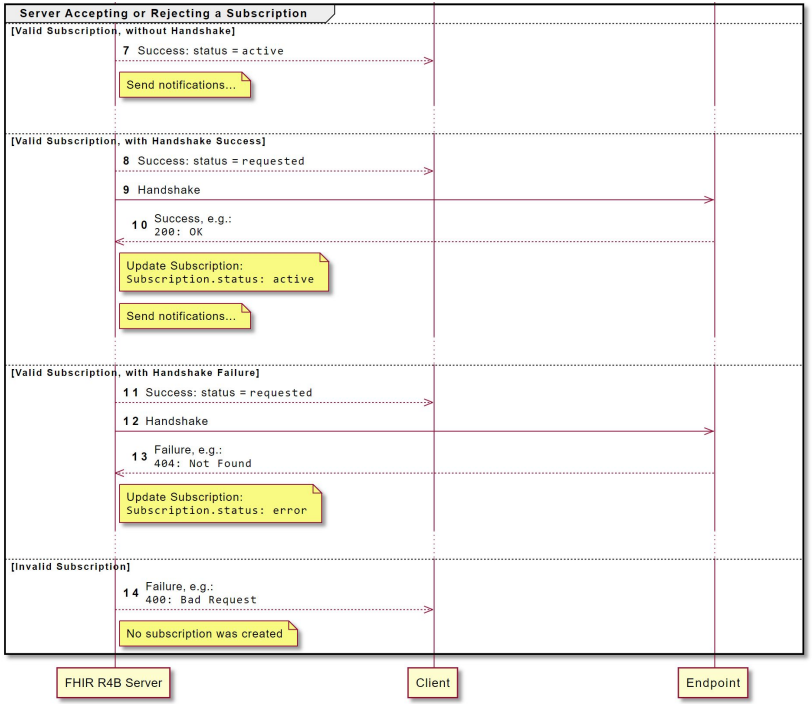
Subscriptions Backport - General Considerations



When the Server accept or reject a Subscription the message response contains the value of *Subscription.status*.

Conformance in FHIR R4B for backport

In order to claim conformance with this guide, a **server**:

- **SHALL support the Subscription resource (read/write).**
  …
- SHALL support the SubscriptionTopic resource (read/search).

if the handshake it is used to verify if the client endpoint is reachable, the client SHALL implement Subscription Search in order to know if Subscription.status has been updated from:

requested → active
or
requested → error

http://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/workflow.html#workflow-fhir-r4b

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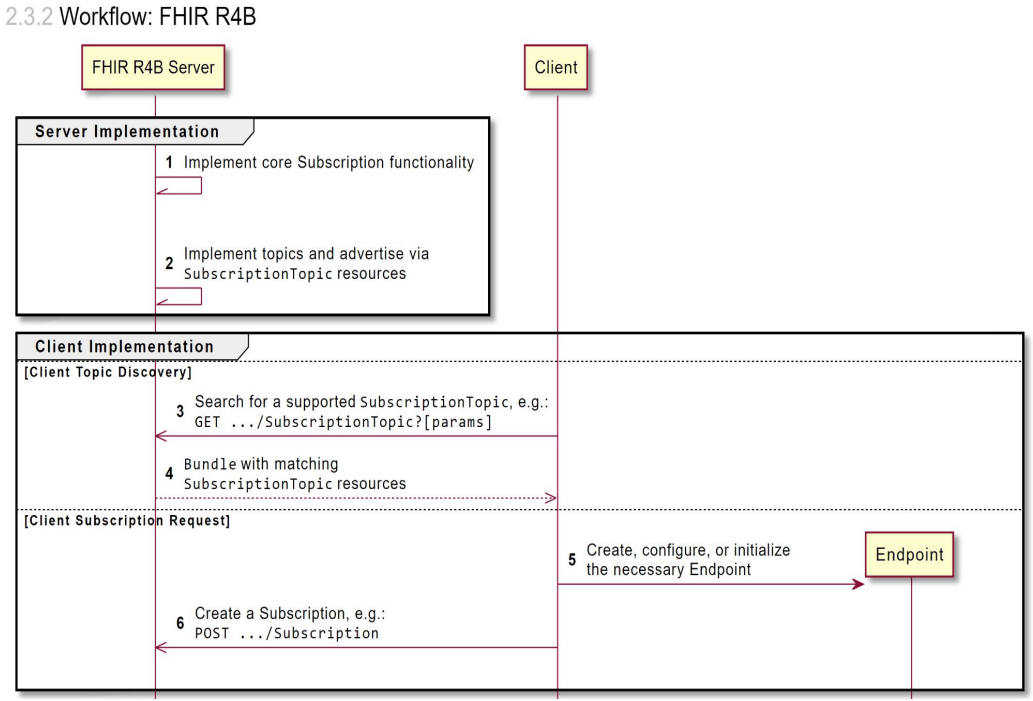
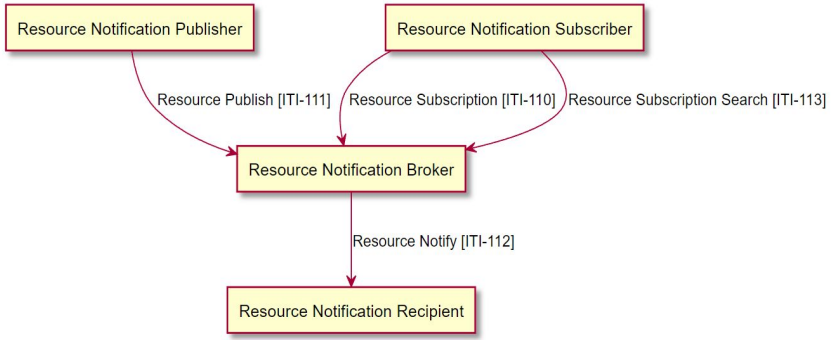
DSUBm compared with Subscriptions Backport





ACTOR MAPPING (DSUBm → Subscription Backport Actor)
Resource Notification Broker → FHIR R4B Server
Resource Notification Subscriber → Client
Resource Notification Recipient → Endpoint

In Volume 1 we decided that [ITI-113] Resource Subscription Search is optional with "Subscription Search" option for Broker and Subscriber actors.

http://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/workflow.html#workflow-fhir-r4b

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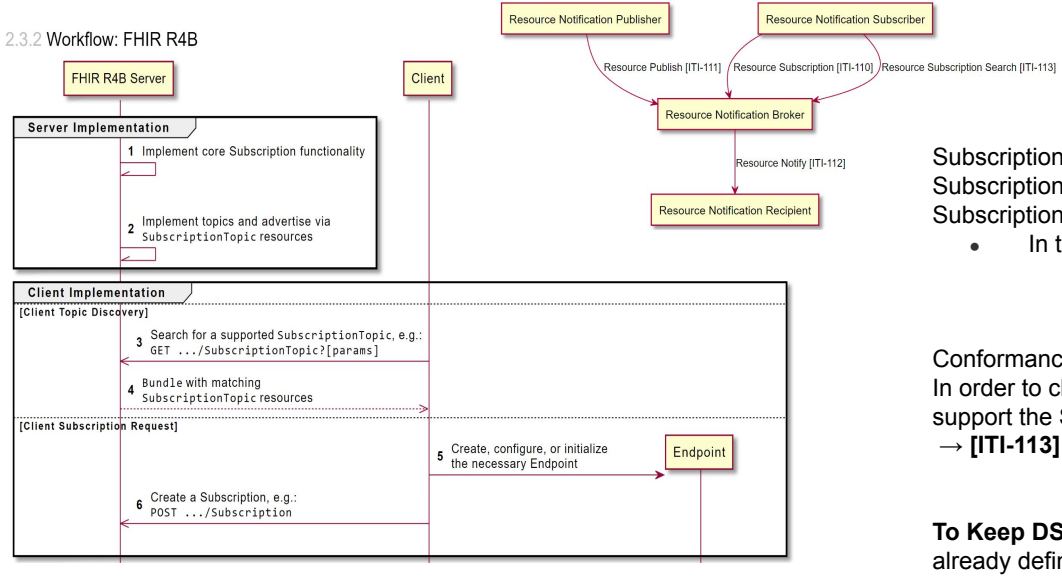
DSUBm compared with Subscriptions Backport: conclusion 1



SubscriptionTopic discovery (see **3** and **4**) → **extend** the [ITI-113] Resource Subscription Search transaction to Search for **SubscriptionTopic** (not only the Subscription Resource)

- In the [ITI-113] will be expected 2 different messages.

Conformance in FHIR R4B:
In order to claim conformance with this guide, Resource Notification Broker SHALL support the SubscriptionTopic resource (read/search)
→ **[ITI-113] transaction for Resource Notification Broker will be required.**

To Keep DSUB and DSUBm similarity, considering that SubscriptionTopic could be already defined and shared between Resource Notification Broker and Resource Notification Subscriber (document environment with defined Affinity Domain)
→ **[ITI-113] transaction for Resource Notification Subscriber remain optional**

- Add 1 option for the SubscriptionTopic Search.

http://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/workflow.html#workflow-fhir-r4b

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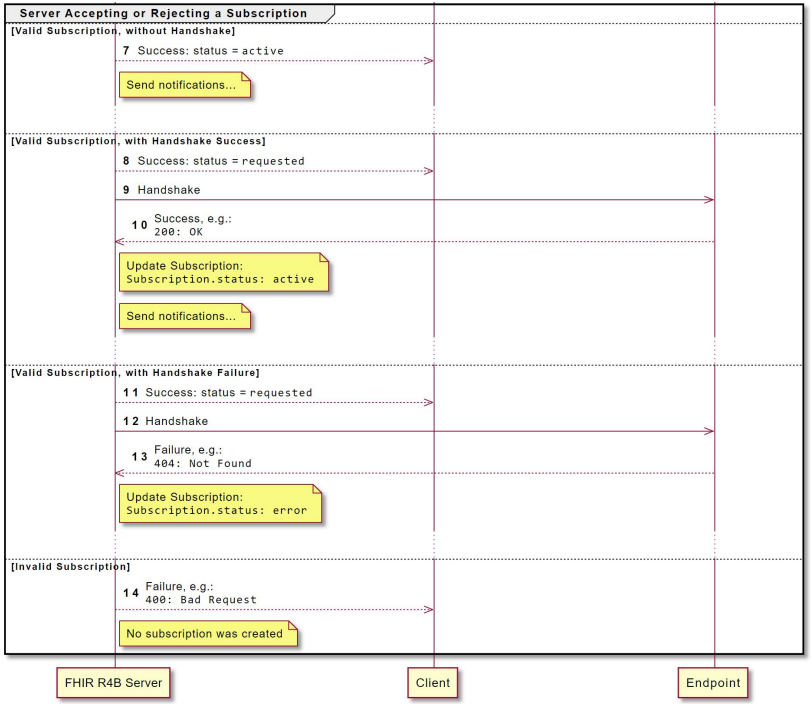
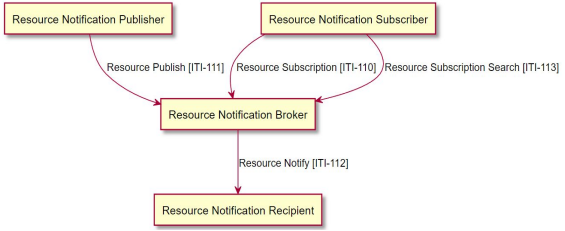
DSUBm compared with Subscriptions Backport: conclusion 2





Conformance in FHIR R4B:
In order to claim conformance with this guide, Resource Notification Broker SHALL support the Subscription resource read.
→ **[ITI-113] transaction for Resource Notification Broker will be required.**

if handshake it is used to verify if the Resource Notification Recipient endpoint is reachable, the Resource Notification Subscriber SHALL implement the Subscription Search in order to know if Subscription.status has been updated from requested to active or from requested to error

if handshake it is used → Resource Subscription Search SHALL implement the Subscription Search option for the [ITI-113] Resource Subscription Search.

http://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/workflow.html#workflow-fhir-r4b

UPDATES 2023-07-10

UPDATED TRANSACTIONS OVERVIEW

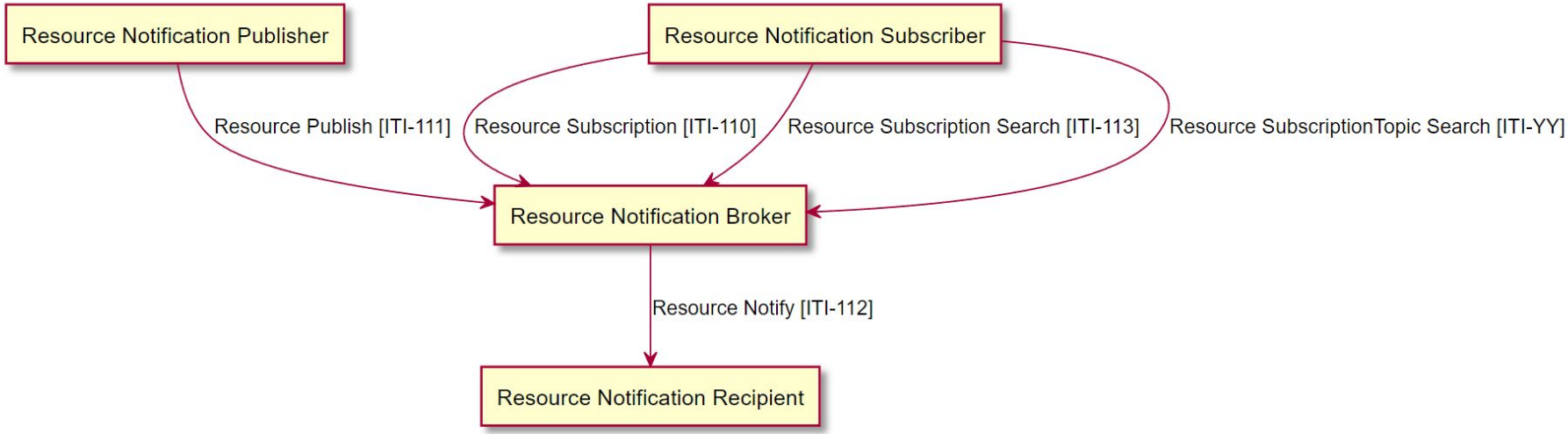


Figure 1:54.1-1: DSUBm Actor Diagram

- Is it possible to assign a number to ITI-YY?
  ITI-YY = ITI-114
  [ITI-114] Resource SubscriptionTopic Search

CONSIDERATIONS

Decided to implement Subscriptions R5 Backport IG and use R4b FHIR version.
LINK: https://build.fhir.org/ig/HL7/fhir-subscription-backport-ig/index.html
From the IG follows that:
1. Resource Notification Broker SHALL support search of Subscription resources
2. Resource Notification Broker SHALL support search of SubscriptionTopic resources

Table 1:54.1-1: DSUBm Profile - Actors and Transactions

Actors	Transactions	Initiator or Responder	Optionality	Reference
Resource Notification Broker	Resource Subscription [ITI-110]	Responder	R	ITI TF-2: 3.110
	Resource Publish [ITI-111]	Responder	O	ITI TF-2: 3.111
	Resource Notify [ITI-112]	Initiator	R	ITI TF-2: 3.112
	Resource Subscription Search [ITI-113]	Responder	R	ITI TF-2: 3.113
	Resource SubscriptionTopic Search [ITI-YY]	Responder	R	ITI TF-2: 3.113
Resource Notification Subscriber	Resource Subscription [ITI-110]	Initiator	R	ITI TF-2: 3.110
	Resource Subscription Search [ITI-113]	Initiator	O (Note 1)	ITI TF-2: 3.113
	Resource SubscriptionTopic Search [ITI-YY]	Initiator	O (Note 1)	ITI TF-2: 3.113
Resource Notification Publisher	Resource Publish [ITI-111]	Initiator	R	ITI TF-2: 3.111
Resource Notification Recipient	Resource Notify [ITI-112]	Responder	R	ITI TF-2: 3.112

Note 1: Transaction Resource Subscription Search [ITI-113] is required if Actor Resource Notification Subscriber supports at least one among the options: "Subscription Search" and "SubscriptionTopic Search" , see Section 54.2 Actor Options.

[ITI-112] Resource Notify

R5 Backport defines notification here:

- Resource Profile: R4B Topic-Based Subscription Notification Bundle
  - A notification bundle MUST have a SubscriptionStatus as the first entry

[ITI-111] Resource Publish

We can start looking at Resource Profile: MHD Comprehensive Provide Document Bundle

- Bundle
  - one SubmissionSet List
  - one (or more) DocumentReference → use MHD mapping between FHIR and Metadata Binary vs FHIR Document Bundle
  - zero or more Folder type List Resources