

# EMR EHR Connectivity 2.0

## Viewlet Framework – Business View

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# 1. INTRODUCTION

## 1.1 Overview

Viewlets provide a consistent implementation of common functionality that can be re-used to provide EMR users with a consistent and standardized user interface and behaviour across different EMR Offerings and EHR products and services that make use of a viewlet.

### 1.1.1 Viewlets

Viewlets are web-based interfaces to perform a specific function or task. The function or task is specific to each individual viewlet, but typically, a viewlet is leveraged by an EHR service where the task is common and can be re-used. A task can be an interaction with the EHR user (e.g., to fill a web-based form to provide patient consent) or some specific task (e.g., interaction to send or receive data to a system). Viewlets off-load the need to implement the function or task within an EMR Offering and creates a consistent user interface experience for the user across all EMR Offerings.

Viewlets perform a function or task that is generally common among multiple EHR services (e.g., collecting patient consent to override blocked patient information). A viewlet can vary in complexity with respect to what input it needs from the EMR Offering, what workflow the viewlet accomplishes and what results may be returned back to the EMR Offering.

The EMR Offering interacts with a viewlet in the following methods:

1. Identifies if the EHR service leverages one or more viewlets and retrieves information to launch a viewlet
2. Provides input data required by the viewlet
3. Renders the viewlet in a browser (e.g., Inline Frame/iFrame)
4. Process the data returned from a viewlet (e.g., response and/or results returned)

## 1.2 Business Drivers

Viewlets provide a consistent user interface experience across different EMR Offerings and different EHR products and services that leverage the same viewlets, which can ease the learning curve for clinicians to use the viewlets. Viewlets also off-loading the need for EMR Offerings to implement these functions or tasks.

## 1.3 Key Benefits

The following is a list of benefits of leveraging viewlet services within an EHR service and supporting them within an EMR Offering:

1. Reduces the effort needed by each implementer to develop the same functionality in their EMR Offering.
2. Reduces the effort needed to develop functionality that is common across different EHR services.
3. Reduces the effort for users to become familiar with common functionality across different EHR services.

## 2. SYSTEM VIEW

### 2.1 System Overview

There are conceptually three systems involved in the interaction pertaining to viewlet services.

1. **EMR Offering:** Used by clinicians to access EHR services and viewlets.
2. **ONE Access Provider Gateway:** Orchestrates the identification, authentication of the EMR user and EMR Offering and their requests for authorizations to an EHR Service. It also provides information to the EMR Offering needed to interact with the viewlet and EHR service.
3. **Viewlet:** The website leveraged by the EMR Offering to perform a function for an EHR Service

**Note:** Some viewlet services also leverage context sharing to deliver a webpage that is specific to a certain context (e.g., patient context).

### 2.2 High-Level Flow of Context Sharing

The diagram below provides an example of the workflow of an EMR user interacting with an EHR Service that leverages a viewlet (and where that viewlet leverages context sharing). This specific example is of the DHDR EHR Service that leverages the PCOI viewlet. The steps that pertain to an EMR Offering interacting with a viewlet in the diagram are:

- a) **Step 2: Get OAuth2 token:** When attempting to connect to the EHR service, the viewlet URL (i.e. PCOI URL) is provided to inform the EMR Offering of the endpoint to interact with the viewlet.
- b) **Step 5: VFSPA launch:** The EMR Offering then initiates a call to the viewlet (also referred to as the Virtual Framework Single-Page Application or VFSPA). The viewlet serves the website to perform a specific function for the EHR service (e.g., the viewlet collects patient consent information).
- c) **Step 9:** The viewlet service responds with the result (e.g., the function completed successfully).

**Note:** There are additional steps described in this workflow that identify processes beyond interacting with a viewlet.

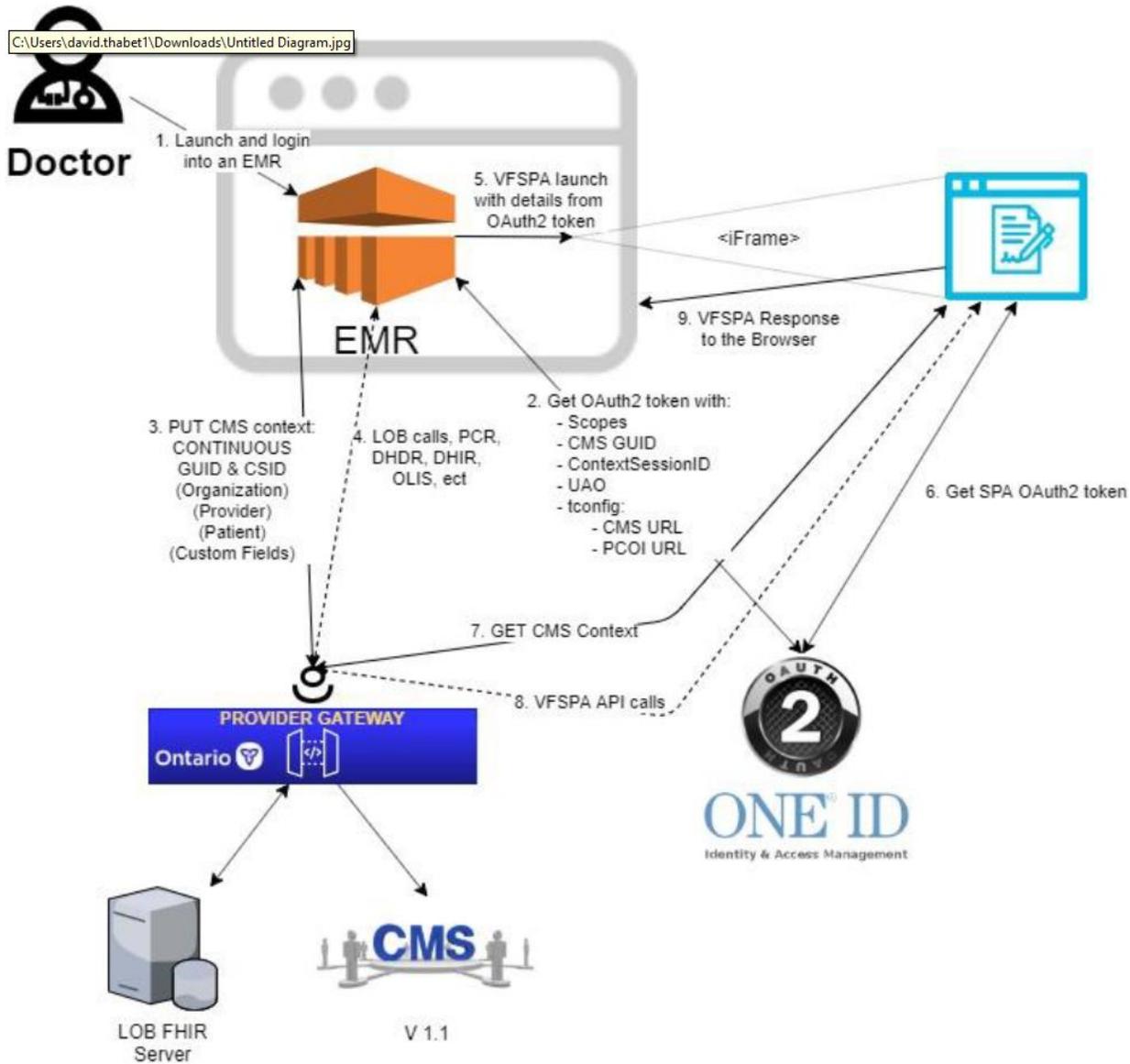


Figure 1 - High-level flow of EMR launching a viewlet service (Ontario Health, 2019)

### 2.3 Viewlet Service Message Flow

The following diagram depicts the message flow of an EMR Offering connecting to and interacting with an EHR Service that leverages a viewlet (that uses patient context).

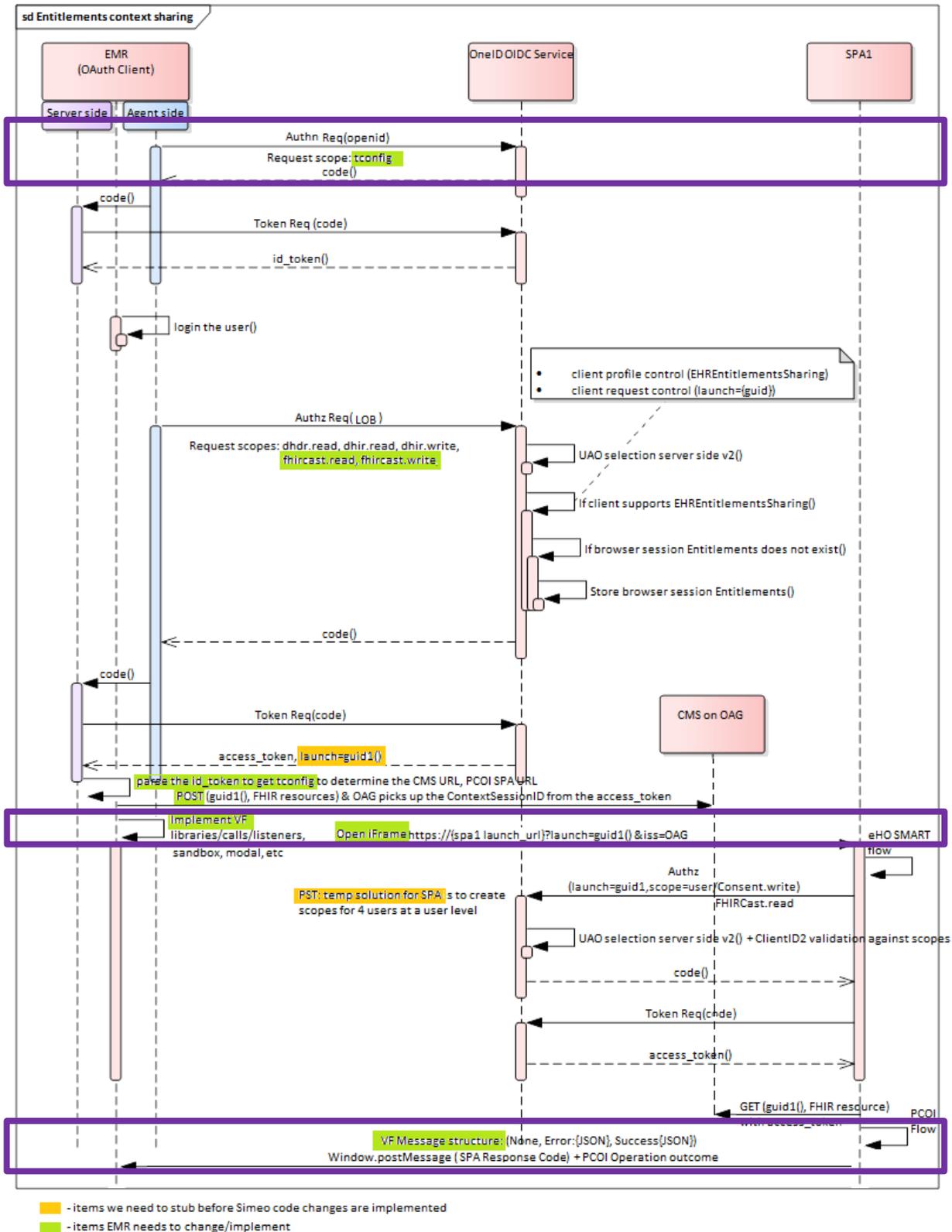


Figure 2 - Sequence diagram of EMR interacting with EHR service that leverages a viewlet (Ontario Health, 2019)

### 3. APPENDIX A: GLOSSARY OF KEY TERMS

#### 3.1 Acronyms and Abbreviations

This table identifies definitions for terms used within or is relevant to this document.

TERM OR ACRONYM	DEFINITION
HTML5	Hypertext Markup Language version 5
EHR	Electronic Health Record
FHIR	Fast Healthcare Interoperability Resources
OAuth2	Open Authentication 2.0
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VFSPA	Viewlet Framework Single-Page Application

#### 3.2 Definitions

The following are the terms and definitions used to describe the concepts used in this document.

TERM	DEFINITION
EHR Service	A service hosted on the ONE Access Provider Gateway. An EHR Service may or may not leverage Context Sharing. Each and every EHR Service will have its own unique target endpoint within the EMR Offering.
Viewlet	A webpage or website that fulfills a specific function or task.