EMR EHR Connectivity

Viewlet Framework – Requirements

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1. INTRODUCTION

1.1 Overview

This document defines functional requirements and provides guidance to integrate functionality within an EMR Offering to interact with EHR products and services hosted on the ONE Access Gateway (OAG) that support Viewlets using the Viewlet Framework. The intended audiences of this document are business and technical implementers.

1.2 Version History

VERSION	REVISION DATE	REVISION NOTES
1.0	2019-12-23	The initial release of Viewlet Framework requirements.
1.1	2020-07-13	Added VF01.02 for setting language in Viewlets.
2.0	2020-12-09	a) Updated reference to ONE Access Viewlet Framework, which is now accessible online b) Updated reference to Ontario Context Management System HL7 FHIR Implementation Guide c) Added VF01.02 for configuration of new Viewlet endpoints within the EMR Offering d) Re-sequenced VF01.02 to VF01.04 to account for the addition of VF01.02 e) Moved VF03.01 to (Error Handling) new section now VF05.01 f) Added VF03.01 to allow an EMR user to launch Viewlets within a patient window g) Re-Sequenced VF05.01 and VF06.01 to account for a new section
2.1	2021-03-04	a) Reference updated version of ONE Access Viewlet Framework. b) Updated reference to ONE Access Viewlet Framework – Developer Guide (version update). c) Updated reference to Ontario Context Management System (CMS) HL7 FHIR Implementation Guide (URL). d) Merged reference to ONE Access Gateway – Transport Specification to Related Documents section (from Additional References section). e) Removed reference to Angular from Additional References and removed Additional References section. f) Updated VF01.03 to add more detail and clarity of where to find the parameters to retrieve and use. g) Updated VF02.02 to add more detail and clarity for setting a Viewlet language. h) Updated VF06.01 to refer to updated list of possible Viewlet related errors and response codes.
2.2	2021-04-09	Updated reference to ONE Access Viewlet Framework (version).
2.2	2021-05-21	EMR Specification released as Draft for Use (DFU).

1.3 Scope

1.3.1 In Scope

- Functionality for EMR Offerings to interact with Viewlets that adhere to the Viewlet Framework
- Rendering Viewlets in a web-based user interface integrated within an EMR Offering
- Functionality for EMR Offerings to accept and handle responses returned from Viewlets

1.3.2 Out of Scope

- Requirements that are specific to any Viewlet implementation. Information about a specific Viewlet. Implementation is available as requirements for that specific EHR service. Refer to the specific EMR Specification for more details.

1.4 Assumptions

- The reader has a working knowledge of the Oauth2 standard
- The reader has a working knowledge of Application Programming Interfaces (APIs)

1.5 Dependencies

- Where an EHR service incorporates the use of one or more Viewlets, the endpoint value for each Viewlet that the EMR Offering needs to connect to is provided as part of the Oauth2 interaction. To facilitate this interaction, the EMR Offering needs to align with the Provincial ONE Access Provider Gateway requirements of the EMR EHR Connectivity Specification.

1.6 Related Documents, References and Sources

ID	DOCUMENT NAME	VERSION	DATE
1	ONE Access Gateway – Transport Specification (Ontario Health Digital Services, 2020) https://ehealthontario.on.ca/en/standards/one-access-gateway-transport-specification	1.0	2020-01
2	ONE Access Viewlet Framework – Developer Guide (Ontario Health Digital Services, 2021) https://ehealthontario.on.ca/en/standards/one-access-viewlet-framework-developer-guide	1.7	2021-03
3	Ontario Context Management System (CMS) HL7 FHIR Implementation Guide (Ontario Health Digital Services, 2019) https://ehealthontario.on.ca/en/standards/ontario-cms	0.1.0	2019-11

2. EMR REQUIREMENTS

This section consists of the EMR functional requirements for leveraging Viewlets.

Support:

M = Mandatory. EMR offerings certified for this specification MUST support this requirement.
O = Optional. EMR vendors MAY choose to support this requirement in their certified EMR offering.

Status:

N = New requirement for this EMR Specification version.
P = Previous requirement.
U = Updated requirement from the previous EMR Specification version.
R = Retired requirement from the previous EMR Specification version.

OMD #:

A unique identifier that identifies each requirement within OntarioMD's EMR Requirements Repository.

CONFORMANCE LANGUAGE

The following definitions of the conformance verbs are used in this document:

- **SHALL/MUST** – Required/Mandatory
- **SHOULD** – Best Practice/Recommendation
- **MAY** – Acceptable/Permitted

The tables that follow contain column headings named: 1) "Requirement," which generally contains a high-level requirement statement; and 2) "Guidelines," which contains additional instructions or detail about the high-level requirement. The text in both columns is considered requirement statements.

2.1 Configuring Viewlets

As more EHR services leverage Viewlets, new Viewlets will be made available. The endpoint or URL for these Viewlets are published as parameters within the toolbar parameter. The toolbar parameter resides in the OAuth2 token request return. The following requirements describe the functionality to connect to a Viewlet and the ability to add more Viewlets, as they become available.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF01.01	The EMR Offering MUST make use of any Viewlet(s) where it is supported by an EHR service.	It is not acceptable to develop EMR functionality that avoids the use of a Viewlet that exists for interacting with an EHR Service.	M	P
VF01.02	The EMR Offering MUST have the functionality to add to or update the configuration list of Viewlets.	The EMR Offering MUST be able to accept and store the following information to configure each Viewlet: a) key b) Viewlet name (label to describe what the key is for) The EMR Offering MUST have the ability to accept the configuration for multiple Viewlets. The EMR user MUST be able to perform the following functions: a) Add keys b) Edit keys c) Delete keys d) Assign a Viewlet name to the keys The EMR Offering MUST maintain an audit log of all configuration functions performed by an EMR user.	M	P

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		The EMR Offering MUST restrict configuration access to certain users. (e.g., only administrative or EMR support users). **Note**: A key represents an identifier used to retrieve the endpoint value for a specific Viewlet. Data to populate the configuration list of Viewlets are provided as an operational activity as Viewlets become available.		
VF01.03	The EMR Offering MUST have the functionality to retrieve and use key-value pairs provided in the toolbar attribute.	The EMR MUST be able to retrieve and use the key-value pairs from the toolbar attribute to interact with Viewlets and other related services. It is not acceptable to hardcode these key-value pairs provided in the toolbar attribute. Refer to "toolbar attributes" in the "ONE Access Viewlet Framework" document for the list of toolbar attributes and their specific purposes. **Note**: The toolbar attribute is pre-populated and provided as part of the ONE ID OAuth 2.0 token response.	M	U
VF01.04	The EMR Offering MUST have the ability to retrieve the Line of Business Transaction ID (X-LobTxId) value.	Refer to the "ONE Access Gateway – Transport Specification" for information on tracking requests and responses to the OAG. **Note**: This requirement is optional for Viewlet functionality, but this information is required when implementing an EHR service that uses a LobTxId value. **Note**: An EHR product or service may be referred to as a "line of business" (LoB) in other documentation.	O	P

2.2 Viewlet Input Parameters and Functionality

The following EMR requirements identify the standard input parameters or data needed by any Viewlet. Additional input parameters may be further identified for specific Viewlets not identified in these EMR requirements.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF02.01	The EMR Offering MUST be able to render web-based content served by a Viewlet.	Refer to the "Certified Web Browsers" section of the "ONE Access Viewlet Framework" document for a list of supported browsers	M	P
VF02.02	The EMR Offering MUST set the Viewlet language setting based on the language set for the EMR User.	Some Viewlets can support different languages. The EMR Offering MUST set the application language for Viewlets. The EMR Offering MUST set the Viewlet language to match the language used by the EMR Offering if that language is supported by the Viewlet. Where the language is not supported by the Viewlet, the EMR Offering MAY set a default language. It is recommended that the language be set per EMR user level, where possible. Refer to the "appLanguage" parameter in the "Profiles and Transactions, Parameters" section of the "Ontario Context Management System (CMS) HL7 FHIR Implementation Guide" for more information on the Viewlet language parameter. **Note**: The "appLanguage" parameter is set by the EMR Offering while setting context during the ONE ID login workflow. It defines the language that a Viewlet will use when displaying content when it is initially launched. Some Viewlets offer a mechanism for the user to also change the language within the Viewlet itself.	M	U

2.3 Session Management

The following EMR requirements apply to functionality specific to Viewlet session management.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF03.01	The EMR Offering MUST have the functionality to allow the EMR user to launch Viewlets.	The EMR user MUST be able to display the list of available Viewlets from a screen or workflow that uniquely identifies a single patient. The EMR Offering MUST be able to display the Viewlet name to the EMR user. Refer to section "Configuring Viewlets" section of this document for more details to configure and maintain the list of available Viewlets.	M	P
VF03.02	The EMR Offering MUST mitigate privacy risks of a Viewlet enabled EHR Service browser window(s) remaining open after an EMR user has logged out.	Once an EMR user initiates logging off the EMR Offering, then the EMR Offering MUST force open browser windows belonging to the EHR Service to close if possible; otherwise, notify the EMR user to close them. It is recommended that EMR Offering functionality employ controls to ensure all browser windows belonging to the EHR Service close when an EMR user logs out of the EMR Offering. In the absence of such controls, the EMR Offering MUST display a message upon logout to inform the EMR user of potential privacy risks whenever an EHR Service window may remain open. This message MUST only be displayed for EMR users who have access to one or more EHR Services. **Note**: Leaving browser windows open may expose PHI to unauthorized individuals.	M	P

2.4 Viewlet Responses

The following EMR requirements apply to functionality specific to Viewlet responses.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF04.01	The EMR Offering MUST have the functionality to be able to handle responses from a Viewlet.	The EMR Offering MUST be able to identify if the Viewlet response was completed successfully or not. Where a failure response is encountered, the EMR Offering MUST inform the EMR user.	M	P
VF04.02	The EMR Offering MUST wait for a return response from a Viewlet.	The EMR Offering MUST wait for results from a Viewlet for a configurable maximum amount of time. The maximum amount of time MUST be a configurable value. The EMR Offering MAY restrict access to change the value to only administrative or EMR support users. The EMR Offering MUST inform the EMR user if no response is returned by a Viewlet within the configured maximum time.	M	P

2.5 Error Handling

The following EMR requirements apply to functionality specific to Viewlet error handling.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF05.01	The EMR Offering MUST have the functionality to manage the unsuccessful launching of a Viewlet.	After attempting to launch a Viewlet, the EMR Offering MUST be able to confirm if the content was received from the Viewlet and rendered. Where no response or incomplete content was received by the EMR Offering from the Viewlet, the EMR Offering MUST have the means to attempt to re-request or reload content. The EMR Offering MUST incorporate a finite number of attempts. Where all re-attempts fail, the EMR Offering MUST inform the EMR user of the failure to launch a Viewlet and then cancel the operation in the absence of any acknowledge returned by the Viewlet.	M	P

2.6 Logging and Auditing

The following EMR requirements apply to functionality specific to logging and auditing for Viewlets and are supplementary to the requirements identified in the Primary Care Baseline Specification.

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
VF06.01	The EMR Offering MUST log all connection attempts with a Viewlet.	The EMR Offering MUST log the following information when attempting a connection with a Viewlet. a) Date and Time of connection attempt to a Viewlet b) Viewlet endpoint attempting to connect c) Status (i.e., success or failure) d) Return codes from Viewlet, if provided e) EMR user who attempted the connection	M	U

OMD #	REQUIREMENT	GUIDELINES	M/O	STATUS
		Refer to the “Error Handling” section of the “ONE Access Viewlet Framework” document for more information regarding possible errors and a list of response codes that can be encountered.		