# EMR EHR Connectivity 2.1

## 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 Viewlet Framework or Viewlets when accessing EHR products and services hosted on the Ontario Health (Digital Services) (OHDS) ONE Access Provider Gateway (Provincial Gateway) that leverage them. 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 | a) Updated SSO01.04 as mandatory<br>b) Updated SSO02.01 to include OAuth2 components for user account association<br>c) Retired SSO02.05. Requirement moved to TLI requirements<br>d) Updated SSO06.03 for clarity on UAO values<br>e) Updated SSO04.01 for clarity on error handling<br>f) Updated SSO05.02 for more details on error logs |

## 1.3 Scope

### 1.3.1 In Scope

- Functionality for EMR Offerings to interact with Viewlets
- 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).

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## 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 | EMR Integration with Viewlet Framework – Developer Guide (Ontario Health Digital Services, 2020)<br><br>Contact architecture@ehealthontario.on.ca for the most current version available. | 0.9 | 2020-03-25 |
| 2 | Ontario Context Management HL7 FHIR Implementation Guide - (Ontario Health Digital Services, 2020)<br><br>https://simplifier.net/guide/ontariocontextmanagement/transactionrequestcontextchange | v0.1.0 | 2020 |

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## 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.

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## 2.1 Identifying a Viewlet-Enabled EHR Service

| OMD # | REQUIREMENT | GUIDELINES | M/O | STATUS |
|---|---|---|---|---|
| VF01.01 | The EMR Offering MUST make use 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 use by an EHR Service. | M | P |
| VF01.02 | The EMR Offering MUST have the functionality to extract and use Viewlet endpoint value(s) provided by the toolbar parameter. | At a minimum the friendly name of the Viewlet endpoints and the key-value pairs must be extracted and stored in the EMR Offering.<br>It is not acceptable to hardcode Viewlet endpoint value(s).<br>Refer to toolbar parameters in the "EMR Integration with Viewlet Framework" document for more information on endpoint values. | M | U |
| VF01.03 | 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.<br><br>**Note**: This requirement is optional for Viewlet functionality, but this information is required when implementing an EHR service that uses a LobTxId value. | O | P |

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## 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 Things to Keep in Mind when Developing section of the "EMR Integration with Viewlet Framework" for technical details to support possible content served by Viewlets. | M | P |
| VF02.02 | The EMR Offering MUST set the Viewlet application language in which to render. | Some Viewlets can support different languages. The EMR Offering MUST set the application language for Viewlets to the language the EMR Offering is configured to for the EMR user.<br><br>It is RECOMMENDED to automatically detect and use the language used in the EMR Offering.<br><br>Refer to the Profiles and Transactions section in the "Ontario Context Management HL7 FHIR Implementation Guide" for more information on setting the application language. | M | N |

## 2.3 Session Management

| OMD # | REQUIREMENT | GUIDELINES | M/O | STATUS |
|---|---|---|---|---|
| VF03.01 | 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. | M | P |

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| OMD # | REQUIREMENT | GUIDELINES | M/O | STATUS |
|---|---|---|---|---|
| | | 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.<br><br>The EMR Offering MUST incorporate a finite number of attempts.<br><br>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. | | |
| 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 of the EMR Offering, it MUST force open browser windows belonging to the EHR Service to close if possible; otherwise, notify the EMR user to close them.<br><br>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.<br><br>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.<br><br>**Note**: Leaving browser windows open may expose PHI to unauthorized individuals. | M | P |

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## 2.4 Viewlet Responses

| OMD # | REQUIREMENT | GUIDELINES | M/O | STATUS |
|---|---|---|---|---|
| VF04.01 | The EMR Offering MUST have the functionality to be able to handle responses back from a Viewlet. | The EMR Offering MUST be able to identify if the Viewlet response completed successfully or if it completed with a failure.<br><br>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.<br><br>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.<br><br>The EMR Offering MUST inform the EMR user if no response is returned by a Viewlet within the configured maximum time. | M | P |

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## 2.5 Logging and Auditing

| OMD # | REQUIREMENT | GUIDELINES | M/O | STATUS |
|---|---|---|---|---|
| VF05.01 | 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.<br>a) Date and Time of connection attempt to a Viewlet<br>b) Viewlet endpoint attempting to connect<br>c) Status (i.e., success or failure)<br>d) Return codes from Viewlet, if provided<br>e) EMR user who attempted the connection<br><br>Refer to the "EMR Integration with Viewlet Framework" document for more information on status codes that can be returned by a Viewlet. | M | P |

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# 3. APPENDIX A: ADDITIONAL REFERENCES

The following are supporting documentation and recommended reading.

| ID | NAME | VERSION | DATE |
|---|---|---|---|
| 1 | Angular (Google, 2019)<br>https://angular.io | 8.2.15 | N/A |
| 2 | ONE Access Gateway – Transport Specification (Ontario Health Digital Services, 2020)<br>https://www.ehealthontario.on.ca/en/standards/view/one-access-gateway-transport-specification | 1.0 | 2020-01-09 |

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