

AHCA Florida Health Care Connections (FX)

Attachment A - Interface Control Document Template

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Revision History

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Modifications to the approved baseline version (100) of this artifact must be made in accordance with the Artifact Management Standards.

Quality Review History

DATE	REVIEWER	COMMENTS
4/20/2020	Henry Wu	Performed Quality Review.
4/21/2020	Tracy Feliciani	Performed Quality Review. Document is ready for submission.



Table of Contents

Section 1	Purpose of the ICD	1
Section 2	Introduction.....	1
2.1	Referenced Documents	1
Section 3	Overview.....	2
Section 4	Assumptions/Constraints/Risks.....	2
4.1	General Interface Assumptions	2
4.1.1	Software and Hardware Assumptions	2
4.1.2	Operational Assumptions	2
4.1.3	End-user Assumptions.....	2
4.2	Constraints	2
4.2.1	Hardware or software environment constraints	2
4.2.2	End-user environment constraints.....	2
4.2.3	Availability of resources constraints	3
4.2.4	Interoperability constraints	3
4.2.5	Interface/protocol constraints	3
4.2.6	Data repository and distribution constraints	3
4.3	Risks and Mitigation Strategies	3
Section 5	General Interface Requirements	3
5.1	Interface Overview	3
5.2	Functional Allocation.....	3
5.3	Inbound and Outbound Data Transfer.....	3
5.4	Transactions	4
5.5	Security and Integrity	4
Section 6	Detailed Interface Requirements.....	4
6.1	Functional Summary	4
6.1.1	Data Exchange Summary	4
6.1.2	Assumptions	5
6.1.3	General Processing Steps	5
6.1.4	Transactions Types, Volumes and Frequency	5
6.1.5	Interface Processing Time Requirements	5



6.1.6	Information Exchange Model Or Message Format or Record Layout	6
6.1.7	Environment Specifications.....	8
6.1.8	Communication Methods	8
6.1.9	Mock Interface Requirements	9
6.1.10	Security Requirements.....	9
6.1.11	Operational Requirements	10
Section 7	Qualification Methods	10
Appendix A	– Interface Controls.....	10
Appendix B:	Data Dictionary	12
Appendix C:	Data Mapping Crosswalk.....	12
Appendix D	– Glossary and Acronyms.....	12

Table of Exhibits

Exhibit 0-1:	Interface Controls at OSI Application Layer	11
Exhibit 0-2:	Interface Controls at OSI Presentation Layer	11
Exhibit 0-3:	Interface Controls at OSI Session Layer.....	11
Exhibit 0-4:	Interface Controls at OSI Transport Layer	11
Exhibit 0-5:	Interface Controls at OSI Network Layer	11
Exhibit 0-6:	Interface Controls at OSI Data Layer.....	11
Exhibit 0-7:	Interface Controls at OSI Physical Layer	11



SECTION 1 PURPOSE OF THE ICD

Instructions: Provide the purpose of the Interface Control document. For example: This Interface Control Document (ICD) documents and tracks the necessary information required to effectively define the <Project Name> system's interface as well as any rules for communicating with them in order to give the development team guidance on architecture of the system to be developed. The purpose of this ICD is to clearly communicate all possible inputs and outputs from the system for all potential actions whether they are internal to the system or transparent to system users. This Interface Control is created during the Planning and Design Phases of the project. Its intended audience is the project manager, project team, development team, and stakeholders interested in interfacing with the system. This ICD helps ensure compatibility between system segments and components.

The intended audience of the <Project Name> Interface Control Document (ICD) is all project stakeholders, including the project sponsor, senior leadership, and the project team.

SECTION 2 INTRODUCTION

Instructions: Provide identifying information for the source and target systems participating in the interface. A separate paragraph should be included for each system that comprises the interface, providing sufficient description to definitively identify the systems participating in the interface. Also describe any security or privacy considerations associated with use of the ICD.

This ICD describes the relationship between the <Source System Name (Acronym)> (the source system) and the <Target System Name (Acronym)> (the target system).

This ICD specifies the interface requirements the participating systems must meet. It describes the concept of operations for the interface, defines the message structure and protocols that govern the interchange of data, and identifies the communication paths along which the project team expects data to flow.

For each interface, the ICD provides the following information:

- A description of the data exchange format and protocol for exchange
- A general description of the interface
- Assumptions where appropriate
- Estimated size and frequency of data exchange

2.1 REFERENCED DOCUMENTS

Instructions: Describe the documents referenced in this section, for example, related and/or companion documents, prerequisite documents, relevant technical documentation, etc.



SECTION 3 OVERVIEW

Instructions: Briefly describe the purpose of each interface to another external system at a functional level and the data exchanged between the interfaces. Further information on the functionality and architecture of the participating systems is given in the subsequent sections. In particular, each system should be briefly summarized with special emphasis on the functionality related to the interface. The hardware and software components of each system are also identified.

SECTION 4 ASSUMPTIONS/CONSTRAINTS/RISKS

4.1 GENERAL INTERFACE ASSUMPTIONS

Instructions: Describe any assumptions or dependencies regarding the interfaces of the system. These may concern such issues as: related software or hardware, operating systems, or end-user characteristics.

4.1.1 SOFTWARE AND HARDWARE ASSUMPTIONS

Instructions: Describe any additional assumptions or dependencies regarding the software or hardware in this section

4.1.2 OPERATIONAL ASSUMPTIONS

Instructions: Describe any additional assumptions or dependencies regarding the operation of this interface in this section

4.1.3 END-USER ASSUMPTIONS

Instructions: Describe any additional assumptions or dependencies of end-user characteristics here.

4.2 CONSTRAINTS

Instructions: Describe any limitations or constraints that have a significant impact on the system interface. Add additional sub section as needed.

4.2.1 HARDWARE OR SOFTWARE ENVIRONMENT CONSTRAINTS

Instructions: Describe any hardware and / or software limitations or constraints in this section.

4.2.2 END-USER ENVIRONMENT CONSTRAINTS

Instructions: Describe any end-user limitations or constraints in this section.



4.2.3 AVAILABILITY OF RESOURCES CONSTRAINTS

Instructions: Describe any resource availability limitations or constraints in this section.

4.2.4 INTEROPERABILITY CONSTRAINTS

Instructions: Describe any interoperability limitations or constraints in this section.

4.2.5 INTERFACE/PROTOCOL CONSTRAINTS

Instructions: Describe any interface protocol limitations or constraints in this section.

4.2.6 DATA REPOSITORY AND DISTRIBUTION CONSTRAINTS

Instructions: Describe any data repository and distribution limitations or constraints in this section.

4.3 RISKS AND MITIGATION STRATEGIES

Instructions: Describe any implementation and/or operation risks associated with the interface in this section. Describe the proposed risk mitigation strategies in this section.

SECTION 5 GENERAL INTERFACE REQUIREMENTS

5.1 INTERFACE OVERVIEW

Instructions: Describe the functionality and architecture of the interfacing systems as they relate to the proposed interface. Briefly summarize the system, placing special emphasis on functionality, including identification of key hardware and software components, as they relate to the interface. If more than one external system is to be part of the interface being defined, then include additional sections at this level for each additional external system.

5.2 FUNCTIONAL ALLOCATION

Instructions: Briefly describe what operations are performed on each system involved in the interface and how the end users will interact with the interface being defined. If the end user does not interact directly with the interface being defined, describe the events that trigger the movement of information using the interface being defined.

5.3 INBOUND AND OUTBOUND DATA TRANSFER

Instructions: Briefly describe how data will be moved among component systems of the interface being defined. Include descriptions and diagrams of how connectivity among the systems will be implemented and of the type of messaging or packaging of data that will be used to transfer data among the systems. If more than one interface between these two



systems is defined by this ICD, each should be identified in this section. In addition, a new ICD should be created for each interface.

5.4 TRANSACTIONS

Instructions: Briefly describe the types of transactions that will be used to move data among the component systems of the interface being defined. If multiple types of transactions will be used for different portions of the interface, a separate section may be included for each transaction.

5.5 SECURITY AND INTEGRITY

Instructions: If the interface defined has security and integrity requirements, briefly describe how access security will be implemented and how data transmission security will be implemented for the interface being defined. Include a description of the transmission medium to be used and whether it is a public or a secure line. Include a brief description of how data will be protected during transmission and how data integrity will be guaranteed. Include a description of how the two systems can be certain they are communicating with each other and not with another system masquerading as one of them. Describe how an individual on one system can be audited and held accountable for resulting actions on the other component of the interface. Normally, this section should be an overview of how security and integrity will be implemented.

An interface that is completely self-contained, such as movement of data between systems resident in the same computer room, may not have any security requirements. In this case it should be so stated with an explanation of why the interface has no security and integrity requirements.

SECTION 6 DETAILED INTERFACE REQUIREMENTS

Instructions: The overview section should be used to briefly describe the purpose of the interface to another external system at a functional level and the data exchanged in the interface. Further information on the functionality and architecture of the participating systems is given in the subsequent sections. In particular, each system should be briefly summarized with special emphasis on the functionality related to the interface. The hardware and software components of each system should also be identified.

6.1 FUNCTIONAL SUMMARY

Instructions: Briefly describe the purpose of the interface to another external system at a functional level.

6.1.1 DATA EXCHANGE SUMMARY

Instructions: Briefly describe the data to be exchanged in the interface in this section.

6.1.2 ASSUMPTIONS

Instructions: Identify any assumptions that specify organizational responsibilities for specific activities or decisions, or that defines specific constraints. Assumptions might include:

- Data acceptance constraints
- Responsibility for establishing and managing the communication protocol
- Responsibility for providing and/or accepting file feeds for test and production processing
- Allowable file sizes
- Responsibility for decisions on acceptance of test results

6.1.3 GENERAL PROCESSING STEPS

Instructions: Describe the daily, weekly, monthly, etc., and threshold processing. Discuss the process to be used to confirm successful file transmission. Identify steps to be taken if all records in a file are received and the steps to be taken if all records are not received. Identify the reports to be used to document the results of daily, weekly, monthly, etc., processing. Describe any special processing that will be performed if a certain percentage (threshold) of the records are rejected.

6.1.4 TRANSACTIONS TYPES, VOLUMES AND FREQUENCY

Instructions: Specify the functional and technical types of transactions along with their corresponding volumes and frequencies.

6.1.5 INTERFACE PROCESSING TIME REQUIREMENTS

Instructions: If information is required to be formatted and communicated as the data is created, as a batch of data is created by operator action, or in accordance with some periodic schedule, indicate processing priority. Requirements for specific messages or files to be delivered to the communications medium within a set interval of time should be included in Subsection named "Message Format (or Record Layout) and Required Protocols". State the priority that the interfacing entities must assign to the interface. Priority may be stated as performance or response time requirements defining how quickly incoming traffic or data requests must be processed by the interfacing system to meet the requirements of the interface. Considerable latitude should be given in defining performance requirements to account for differences in hardware and transaction volumes at different installation sites of the interfacing systems. Response time requirements, which are impacted by resources and beyond the control of the interfacing systems (i.e., communication networks) are beyond the scope of an ICD.



6.1.5.1 PREDECESSORS AND DEPENDENCIES

Instructions: Specify the jobs, processes and/or other dependencies that need to be met before the interface executes.

6.1.5.2 INTERFACE SCHEDULE AND CUT-OFF TIMES

Instructions: For “batch” interfaces, specify the schedule at this the interface executes inbound and outbound processes. Specify Cut-Off Times between Partner trigger times and Agency trigger times.

6.1.6 INFORMATION EXCHANGE MODEL OR MESSAGE FORMAT OR RECORD LAYOUT

Instructions: Specify the explicit definitions of and the conditions under which each message is to be sent. Describe the definition, characteristics, and attributes of the command; also, document query and response descriptions. If the interface maps to the Enterprise Information Exchange Model, describe the relationship and mapping to the models.

6.1.6.1 FILE LAYOUT

Instructions: This section should contain diagrams and short descriptions of both the header and detail layouts. This information may be included in an appendix to the document that is referenced here.

6.1.6.2 DATA ASSEMBLY CHARACTERISTICS

Instructions: Define the content and format of every message, file, or other data element assembly (records, arrays, displays, reports, etc.) specified in Subsection named “Message Format (or Record Layout) and Required Protocols”. In defining interface where data is moved among systems, define the packaging of data to be utilized. The origin, structure, and processing of such packets will be dependent on the techniques used to implement the interface. Define required characteristics of data element assemblies that the interfacing entities must provide, store, send, access, receive, etc. When relevant to the packaging technique used, the following information should be provided:

- Names/identifiers
- Project-unique identifier
- Non-technical (natural language) name
- Technical name (e.g., record or data structure name in code or database)
- Abbreviations or synonymous names
- Structure of data element assembly (e.g., field name, type, length, valid values, etc.)
- Visual and auditory characteristics of displays and other outputs (e.g., colors, layouts, fonts, icons, and other display elements, beeps, lights) where relevant



- Relationships among different types of data element assemblies used for the interface
- Priority, timing, frequency, volume, sequencing, and other constraints (e.g., whether the assembly may be updated and whether business rules apply)
- Sources (setting/sending entities) and recipients (using/receiving entities).

6.1.6.3 FIELD/ELEMENT DEFINITION

Instructions: Define the characteristics of individual data elements that comprise the data packets defined in Subsection named “Data Assembly Characteristics”. Sections “Data Assembly Characteristics” and “Field/Element Definition” may be combined into one section in which the data packets and their component data elements are defined in a single table. Data element definitions should include only features relevant to the interface being defined and may include such features as:

- Names/identifiers
- Project-unique identifier
- Priority, timing, frequency, volume, sequencing, and other constraints (e.g., whether the data element may be updated and whether business rules apply)
- Non-technical (natural language) name
- Technical name (e.g., variable or field name in code or database)
- Abbreviation or synonymous names
- Data type (alphanumeric, integer, etc.)
- Size and format (e.g., length and punctuation of a character string)
- Units of measurement (e.g., meters, dollars, nanoseconds)
- Range or enumeration of possible values (e.g., 0-99)
- Accuracy (how correct) and precision (number of significant digits)
- Security and privacy constraints
- Sources (setting/sending entities) and recipients (using/receiving entities)
- Validation rule(s)

If there is a need to reformat data before they are transmitted or after incoming data is received, include descriptions of the tools and/or methods for the reformatting process.

6.1.6.4 SAMPLE MESSAGES/PAYLOADS

Instructions: Provide samples of inbound and outbound messages/payloads.

6.1.7 ENVIRONMENT SPECIFICATIONS

Instructions: Specify details on the Agency and Partner environments involved in the interface. This includes IP/Host/Port and Service Account information, along with volume allowance and support procedures for each environment.

6.1.7.1 ENVIRONMENT INVENTORY

Instructions: Specify the list of environments with environment details.

6.1.7.2 ENVIRONMENT ALIGNMENT

Instructions: Specify the alignment of Agency and Partner environments for different phases of the SDLC. For example, provide Dev environment, Test Environment, UAT Environment and Production Environment mapping between Agency and Partners.

6.1.7.3 DISASTER RECOVERY (DR) PROCEDURE

Instructions: Specify the procedure to be followed during a DR situation at the Agency and/or at the Partner location.

6.1.8 COMMUNICATION METHODS

Instructions: Communication requirements include all aspects of the presentation, session, network, and data layers of the communication stack to which both systems participating in the interface must conform. Document the specifications for hand-shaking protocols between the two systems. Include the content and format of the information to be included in the hand-shake messages, the timing for exchanging these messages, and the steps to be taken when errors are identified. The following subsections should be included in this discussion as appropriate to the interface being defined and may be supplemented by additional information as appropriate.

6.1.8.1 INTERFACE INITIATION

Instructions: Define the sequence of events by which the connections between the participating systems will be initiated. Include the minimum and maximum number of conceptions that may be supported by the interface. Also include availability requirements for the interface (e.g., 24 hours a day, 7 days a week) that are dependent on the interfacing systems. Availability requirements beyond the control of the interfacing systems (e.g., network availability) are beyond the scope of the ICD.

6.1.8.2 PROTOCOL SPECIFICATIONS

Instructions: Specify the Transport and Message Layer protocols being used by the interface.

6.1.8.3 FLOW CONTROL

Instructions: Specify the sequence numbering, legality checks, error control, and recovery procedures that will be used to manage the interface. Include any acknowledgement (ACK/NAK) messages related to these procedures. Address the format(s) for error reports exchanged between the systems and their disposition (e.g., retained in a file, sent to a printer, flag/alarm sent to the operator, etc.).

6.1.9 MOCK INTERFACE REQUIREMENTS

Instructions: Specify approach for mock-testing the interface on the agency side as well as the partner side

6.1.9.1 MOCK INTERFACE AGENCY TEST CASES

Instructions: Specify the testcases that need to be tested successfully by the agency before integrating services with the partner.

6.1.9.2 MOCK INTERFACE PARTNER TEST CASES

Instructions: Specify the testcases that need to be tested successfully by the partner before integrating services with the partner.

6.1.10 SECURITY REQUIREMENTS

Instructions: Specify the security features that are required to be implemented within the message or file structure or in the communications processes. Specify the security of the communication methods used (Include safety/security/privacy considerations, such as encryption, user authentication, compartmentalization, and auditing). For interactive interface, security features may include identification, authentication, encryption, and auditing. Simple message broadcast or ASCII file transfer interface are likely to rely on features provided by communication services. Do not specify the requirements for features that are not provided by the systems to which the ICD applies. Specifically state if the interface relies solely on physical security or on the security of the networks and firewalls through which the systems are connected.

6.1.10.1 DATA ENCRYPTION (AT-REST)

Instructions: Specify encryption mechanism for data at-rest.

6.1.10.2 DATA ENCRYPTION (IN TRANSIT)

Instructions: Specify the Transport and Message Layer encryption mechanism

6.1.11 OPERATIONAL REQUIREMENTS

6.1.11.1 OPERATIONAL SPECIFICATIONS

Instructions: Specify the volume metrics and SLAs/SLOs for the interface.

6.1.11.2 EXCEPTION HANDLING PROCEDURES

Instructions: Specify automated and/or manual processes in place for handling functional and technical exceptions occurring in the interface.

6.1.11.3 OPERATIONAL CO-ORDINATION

Instructions: Specify the incident management and escalation procedures along with the contact list of key stakeholders for the agency as well as partner sides.

6.1.11.4 CHANGE MANAGEMENT AND MAINTENANCE

Instructions: Specify and document the change management and maintenance procedures for the interface at the agency side as well as partner side.

SECTION 7 QUALIFICATION METHODS

Instructions: This section defines a set of qualification methods to be used to verify that the requirements for the interface defined in Section “Detailed Interface Requirements” have been met. Qualification methods include:

- Demonstration - The operation of interfacing entities that relies on observable functional operation not requiring the use of instrumentation, special test equipment, or subsequent analysis
- Test - The operation of interfacing entities using instrumentation or special test equipment to collect data for later analysis
- Analysis - The processing of accumulated data obtained from other qualification methods (e.g., reduction, interpretation, or extrapolation of test results)
- Inspection - The visual examination of interfacing entities, documentation, etc.
- Special Qualification Methods - Any special qualification methods for the interfacing entities (e.g., special tools, techniques, procedures, facilities, and acceptance limits)

APPENDIX A – INTERFACE CONTROLS

Instructions: Utilize appendices to facilitate ease of use and maintenance of the ICD document. Each appendix should be referenced in the main body of the document where that information would normally have been provided.

Include a detailed description of the required interface controls below:

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-1: Interface Controls at OSI Application Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-2: Interface Controls at OSI Presentation Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-3: Interface Controls at OSI Session Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-4: Interface Controls at OSI Transport Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-5: Interface Controls at OSI Network Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-6: Interface Controls at OSI Data Layer

Interface Type	Interface From	Interface To	Description of Interface	Other Information
<Interface Type>	<Interface From>	<Interface To>	<Interface Description>	<Other Information>

Exhibit 0-7: Interface Controls at OSI Physical Layer



APPENDIX B: DATA DICTIONARY

Instructions: The data dictionary shall contain for each field in the interface: Human readable/"plain English" field name; A field description; Database field name; Database table; Field Type; Field length. Also provide Codes associated with the field and Descriptions of each code. Provide how the Data field map to the Information Exchange Model. The data dictionary must be published online in a readable, searchable format available for all end users.

APPENDIX C: DATA MAPPING CROSSWALK

Instructions: Specify equivalent elements (or "fields") in all components of the agency and partner systems. Map the elements in one component-schema to the equivalent elements in another component schemas.

APPENDIX D – GLOSSARY AND ACRONYMS

Instructions: Document definitions for terms used in this document that may be unfamiliar to the readers of this document in this section.

TERMINOLOGY	DEFINITION
IDLC	Interface Development Life Cycle
ICD	Interface Control Document