

CARIN Blue Button

Summary

- Real world testing of the CARIN Blue Button IG.
- HL7 CARIN Confluence: [2020-05 CARIN Consumer Directed Payer Data Exchange \(CARIN Blue Button\)](#)

Participants

Google	Centene	Infor
Videntity	TIBCO	Apple
CareEvolution	Trinity Health	IBM
Onyx	Security Health Plan	Healthsparq
MaxMD	Arcweb Technologies	Cigna
1upHealth	Blue Cross of NC	WPS Health Solutions
MITRE	Xperterra / Smile CDR	Aetna, CVSHealth
BCBST	Edifecs	Diameter Health
Asymmetrik	BlueCross BlueShield of TN	PatientLink
IntePro Solutions	United Health	BCBSNC

Notable Achievements

- The group set up over eight servers with data by the end of the Connectathon. Over a dozen client apps have connected to the servers and pulled data.
- 1Up Health connected to CareEvolution with no issues.
 - 1Up Health connected to the MITRE server and were able pull data and set it up so they could view the data in their app.
 - 1Up Health succeeded in connecting to the BCBST server and set up the app to visualize the data.
 - 1Up Health encountered a few SSL issued with Edifecs and are following up with them to determine a solution.
 - A few connected to 1Up Health successfully but found some issues with the metadata connection.
- MITRE noted that a few were able to connect their client app and others got close. All of the issues except one were fixed by directing users to the correct part of the documentation. The only outstanding issue is the EC2 instances that the RIs were put on for this Connectathon were not SSL.
- Onyx registered nearly a dozen apps successfully.
- MAXMD was able to query CareEvolution and render the EOBs.
 - MaxMD was also able to connect to and render EOBs from 1upHealth and MITRE.
- United Health Care was able to connect to the Onyx Health server with little issue. A number of other apps were also able to connect successfully.
- Healthsparq was able to show the authentication and the server that has CPCDS records and when it calls the various endpoints shows the FHIR data.
- Infor connected to Onyx successfully and was able to register an app, get a code and token, and successfully receive a Searchset bundle with 10 EOB Resources.

- CareEvolution: Was able to get a token on the “simplified” get a token endpoint, but was not able to follow the more secure flow due to getting stuck at the “Secret”, “Confirm Secret” entries. Also using the token from the simplified process yielded a Patient, but no EOB.
- MITRE: Was not able to successfully follow the credentialing (OAuth) work flow to successfully acquire a Token.
- CareEvolution was not able to connect to a number of the servers.
 - Videntity: no credentials or registration system available
 - Onyx: could not register app, the registration form rejected our redirect URL
 - Edifacts: capability statement does not include OAuth2 authorization and token URLs (as per SMART specs)
 - 1upHealth: requires authentication to fetch the capability statement, so our app cannot initiate the authorization process because it cannot discover the OAuth2 authorization and token URL
 - MITRE: bug on our side processing their Capability statement
 - BCBST: same problem as 1upHealth: requires authentication to fetch the capability statement, so our app cannot initiate the authorization process because it cannot discover the OAuth2 authorization and token URL
 - MaxMD connected successfully to our server. We do not specify anywhere the access scope to use, besides that seems to be OK
- PatientLink was able to connect to CareEvolution, Onyx, and 1upHealth.
 - They pulled data with their app from CareEvolution and Onyx and on 1upHealth, but was not getting patient id via the OAuth process so manually did it via Postman.

Screenshots



Applications Registered with ONYX



Application ID	Application Name	Developer First Name	Developer Last Name	Organization	Developer Email	App Security Attestations	Last Updated Date
1193	MyCareAI	safhir	developer1	Microsoft	safhirdeveloper1@gmail.com		5/13/2020 2:42:23 PM
1197	John Gresh Test	John	Gresh	Self	john_gresh@uhc.com	https://www.google.com	5/14/2020 1:49:09 PM
1199	John Gresh Test 02	John	Gresh	Self	john_gresh@uhc.com	https://www.google.com	5/14/2020 2:07:40 PM
1200	Test_EOB_App	Kevan	Riley	Infor	kevan.riley@infor.com	https://google.com	5/14/2020 2:55:29 PM
1201	MyLinks Dev	Jay	Gustafson	PatientLink Enterprises	website@mylinks.com		5/14/2020 3:31:42 PM
1202	Connectathon 24	Shane	O'Neill	Asymmetrik.com	sonell@asymmetrik.com		5/14/2020 3:57:46 PM
1203	DamianConnectathon	Damian	Smith	Cigna	damian.smith@cigna.com		5/14/2020 4:05:18 PM
1204	MaxMD APP	Peng	Tang	MAXMD	ptang@max.md		5/14/2020 8:32:49 PM
1205	Test FHIR Carin	Erik	Hass	PacificSource	erik.hass@pacificsource.com	http://www.google.com	5/15/2020 2:52:14 PM
1206	Matthew's PostMan Test	safhir	developer1	Microsoft	safhirdeveloper1@gmail.com		5/15/2020 3:21:29 PM
1207	TestApp2on3000	Kevan	Riley	Infor	kevan.riley@infor.com	https://google.com	5/15/2020 4:09:23 PM
1208	test	safhir	developer1	Microsoft	safhirdeveloper1@gmail.com		5/15/2020 6:03:48 PM
1209	FHIR Tester	Amy	Ballard	Apple	amy_ballard@apple.com		5/15/2020 6:14:38 PM
1211	Cigna Test BB	Jason	Teeple	Cigna	jason.teeple@cigna.com	https://cigna.com	5/15/2020 6:30:01 PM



Ester635 Rodríguez611 (official) Ester635 Cintrón695 (maiden)
female, 1973-10-07 (DOB) JSON

ADDRESS 715 Marvin Dam Apt 65
Milford, MA 01757 US

TELEPHONE 555-701-9171

COMMUNICATION - LANGUAGE Spanish (es)

ExplanationOfBenefit

active JSON

TYPE (institutional)
 CREATED 1991-12-01T14:10:26-05:00
 CLAIM PROVIDER Practitioner/4
 TOTAL Submitted Amount
 Submitted Amount (submitted)
 129.16 USD
 PURPOSE claim
 PATIENT Patient/1
 INSURANCE Humana #coverage

active JSON

TYPE (institutional)
 CREATED 1992-12-06T14:10:26-05:00
 CLAIM PROVIDER Practitioner/4
 TOTAL Submitted Amount
 Submitted Amount (submitted)
 129.16 USD
 PURPOSE claim
 PATIENT Patient/1
 INSURANCE Humana #coverage

active JSON

TYPE (institutional)
 CREATED 1993-12-12T13:55:26-05:00
 CLAIM PROVIDER Practitioner/4
 TOTAL Submitted Amount
 Submitted Amount (submitted)
 129.16 USD
 PURPOSE claim

active JSON

TYPE (institutional)
 CREATED 1994-12-18T13:55:26-05:00
 CLAIM PROVIDER Practitioner/4
 TOTAL Submitted Amount
 Submitted Amount (submitted)
 129.16 USD
 PURPOSE claim

Discovered Issues

- In future, include the Synthea CPCDS export contributors in CARIN implementation meetings.
- Clarification on Coordination of Benefits (primary/secondary slices).
- Clarification on the Coverage identifier.
- Clarification on adjudication and total amount.
- More clarification needed around servers and licensed code sets.
- Clarification around base EOB and derived profiles usage.
- How do subscriber-dependent relationships work when retrieving data?
- How does a patient universal/mastered id (across a Plan's LOBs and coverages) work when retrieving data?
- Returning CARIN EOBs as FHIR Documents is a good way to express the adjudication-time version intent of the EOB records.
 - A concern is that the document could get bulky? But is returning adjudication-time version of the EOB records, a requirement?
- Does patient information (name, address, etc) and practitioner information (name, address, etc) need to be communicated as of the claims adjudication date? Can payers communicate the most recent information for these resources.

Next Steps

- Will have more implementation meetings to continue to the momentum from this Connectathon.
- Request feedback from implementers on any gaps or issues that are encountered.