

The Argonaut Project

July 31, 2015

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Congress and ONC think that nationwide interoperability can be legislated from the top-down...

Enter, the Argonaut Project



A private sector initiative to advance industry adoption of modern, open interoperability standards.

Following the JASON Task Force report on October 15, 2014, a small group of vendors and providers got together to provide funds and support for a focused interoperability initiative

- JASON Task Force – call to action for “public APIs” and market-based interoperability governance and coordination
- Market experience with MU Stage 2 and associated certification
- Desire to give business focus to HL7 FHIR development

Scope of project

- Funding for technical expertise and project management
- Accelerate and focus work on more specific FHIR profiles and documentation
- Accelerate and focus accompanying security specifications and documentation
- Support for implementation program for market testing/adoption

Argonaut Structure

Founding organizations

- athenahealth
- Beth Israel Deaconess Medical Center
- Cerner
- Epic
- Intermountain Health
- Mayo Clinic
- McKesson
- MEDITECH
- Partners Healthcare System
- SMART at Boston Children's Hospital Informatics Program
- The Advisory Board Company
- Accenture
- Surescripts

Staff

- HL7 – prime contractor
- Grahame Grieve – FHIR API development
- Dixie Baker, Josh Mandel – OAuth 2.0 Security development
- Micky Tripathi, Jennifer Monahan – Project management

Alignment with Federal Certification

The health care delivery and health care information technology markets are rapidly evolving, and so too will the balance of public versus private roles in driving interoperability

- Ultimately, we hope that successful and rapid adoption would preclude the need for further federal government intervention in interoperability standards.
- We also believe that a premature certification requirement might have an adverse effect on the development and adoption of this important work.

FHIR- and OAuth 2.0-based standards are not mature enough for inclusion in 2015 Edition Certification

- A premature certification requirement will have an adverse effect on development and adoption of FHIR and OAuth 2.0

The current ONC draft certification rule is consistent with this evolutionary approach

- Signals that FHIR-based APIs will likely be included in future certification requirements
- Gives credit for early adopters who deploy functional APIs to meet MU use cases, but does not require APIs in certified systems

Argonaut Scope

The Argonaut Project is refining and packaging specifications and implementation guides for:

- FHIR RESTful API for data element query of the Common MU Data Set and Provider Directories
- FHIR RESTful API for document-level query of static documents (such as CCDA)
- SMART on FHIR OAuth 2.0 security profile for authorization of applications to retrieve health data within and across enterprises

Argonaut Phase 1 (Dec 2014 – Jun 2015)

- Argonaut FHIR Implementation Guide:
 - http://argonautwiki.hl7.org/index.php?title=Implementation_Guide
- Argonaut SMART on FHIR OAuth 2.0 Security Implementation Guide (within enterprise)
 - <http://fhir-docs.smarthealthit.org/argonaut-dev/authorization/>

Argonaut Project Phase 2 (Jul 2015 – Dec 2015)

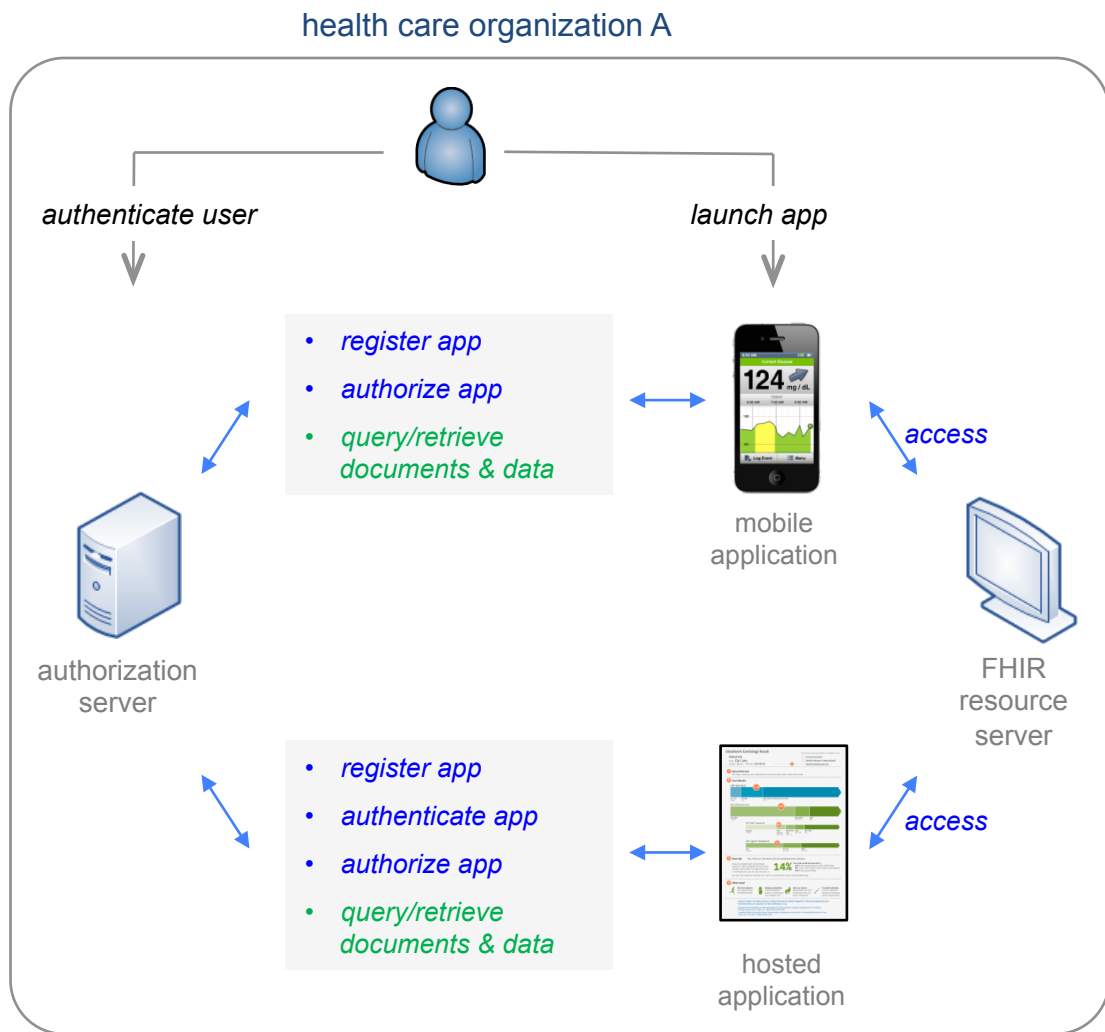
- FHIR: 1) adoption-oriented constraints to align server and client expectations; 2) provider directories
- Authorization: 1) add technical specs and best practices for server developers; 2) add profile for cross-enterprise use cases

Stewardship

- The FHIR Data Query Profile and FHIR Document Query Profile are mapped to the general FHIR DSTU R2
- The Security Implementation Guide will eventually be incorporated in the HL7 balloting process but for this project will be developed in parallel to accompany the FHIR Data Query and Document Query Profiles and Implementation Guides

Argonaut Phase 1 and Phase 2 Scope

Phase 1: "within" enterprise



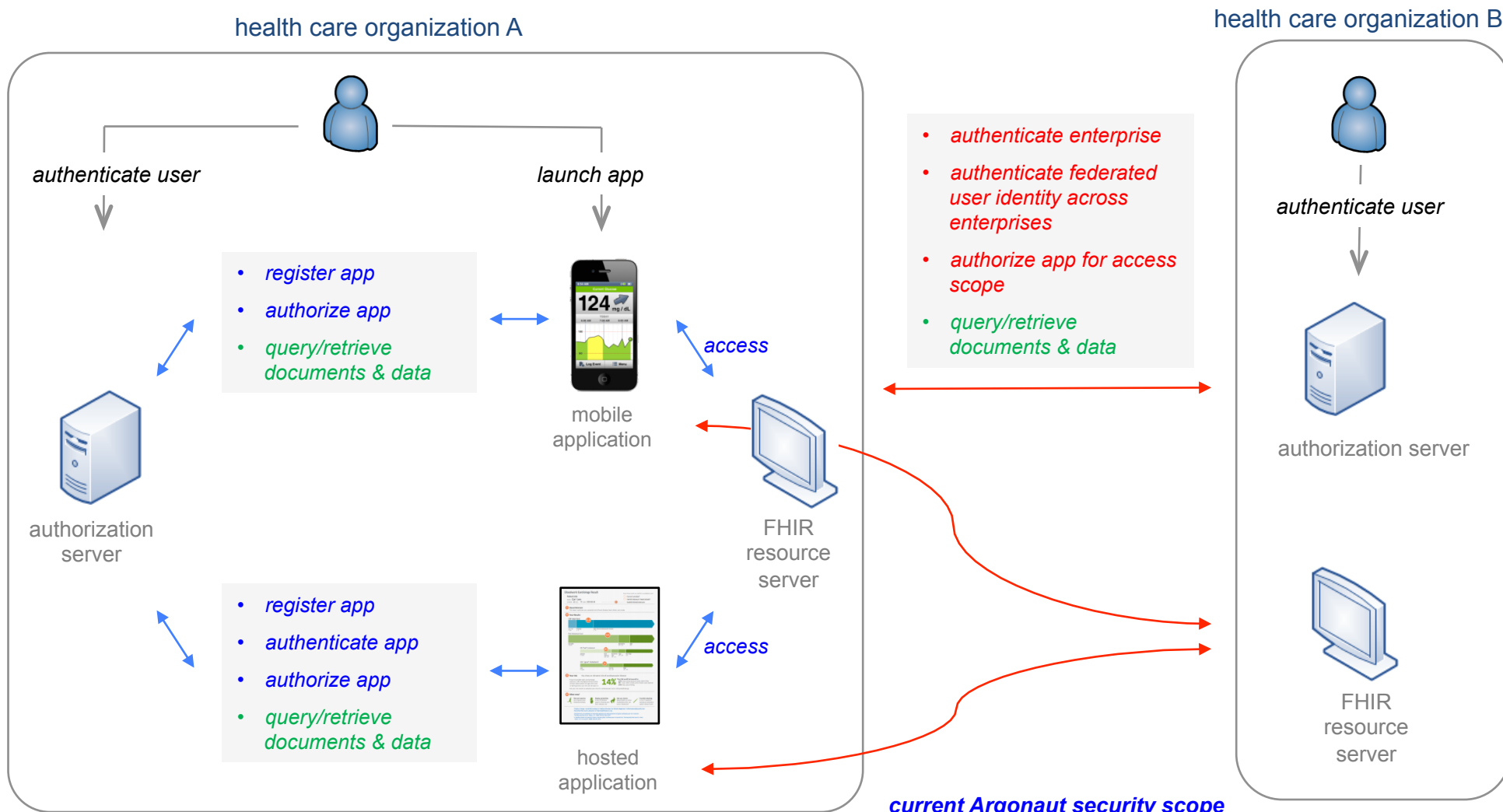
current Argonaut security scope

current Argonaut FHIR scope

Argonaut Phase 1 and Phase 2 Scope

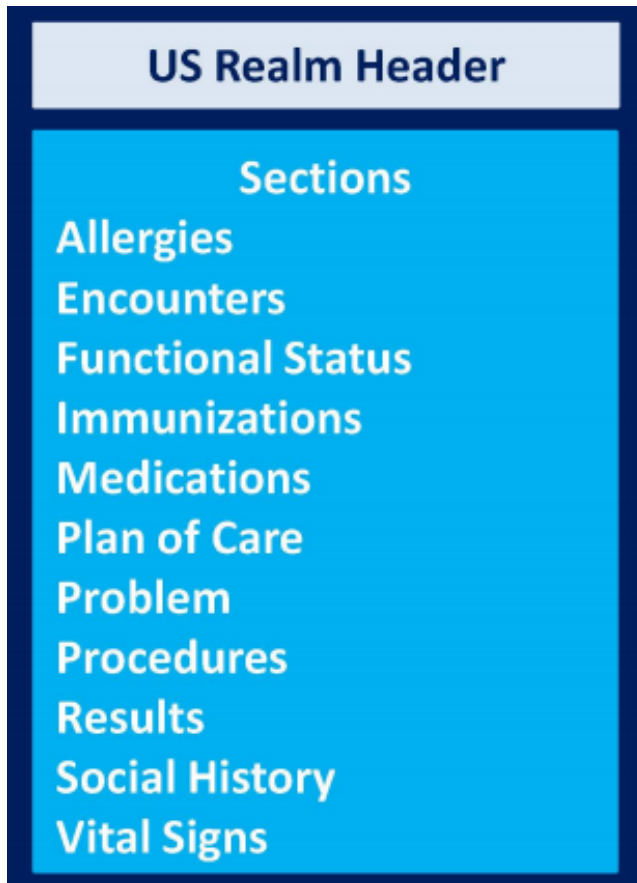
Phase 1: "within" enterprise

Phase 2: cross-enterprise



Why FHIR?

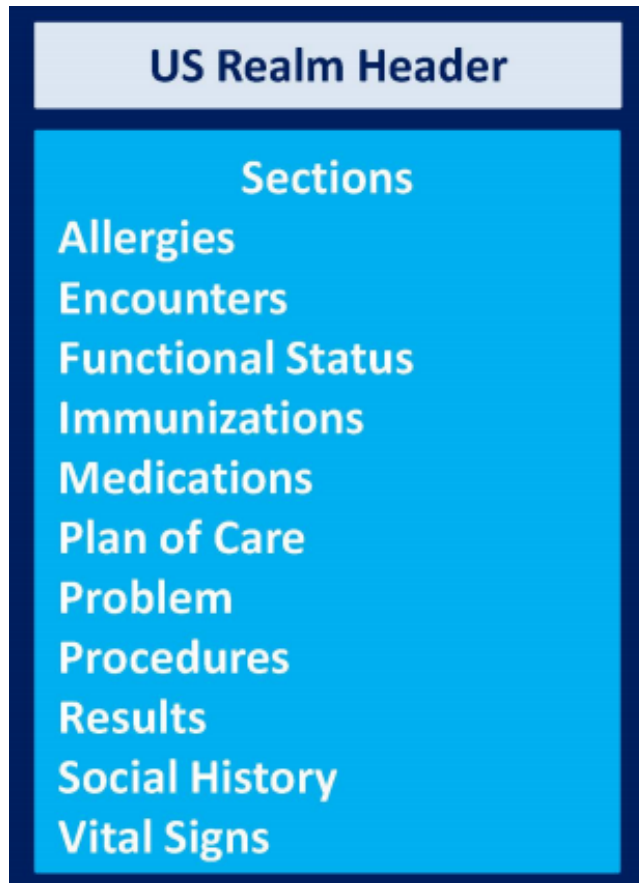
Provider-to-Provider Use Case



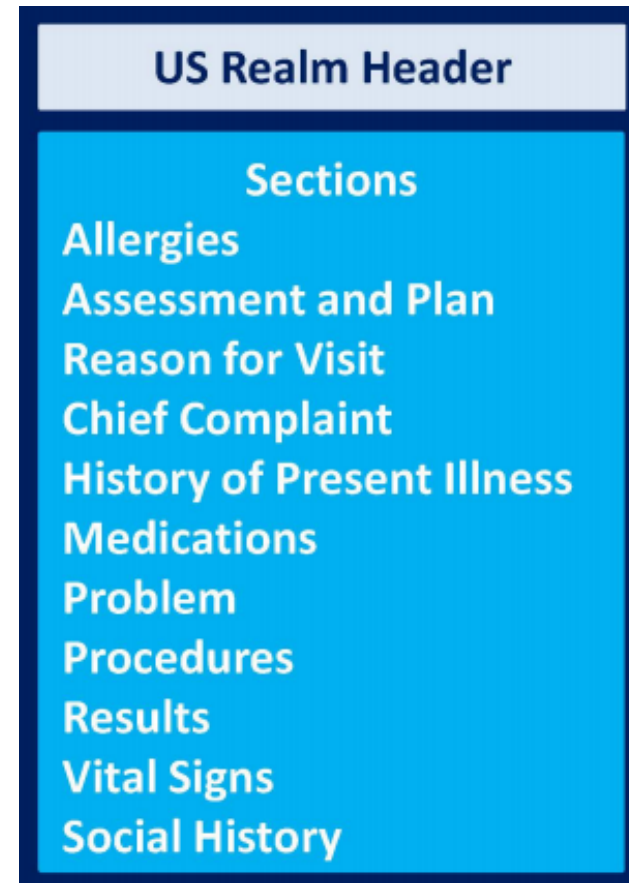
Source: [ONC, *Implementing CCDA for Meaningful Use Stage 2*](#)

Why FHIR?

Provider-to-Provider Use Case

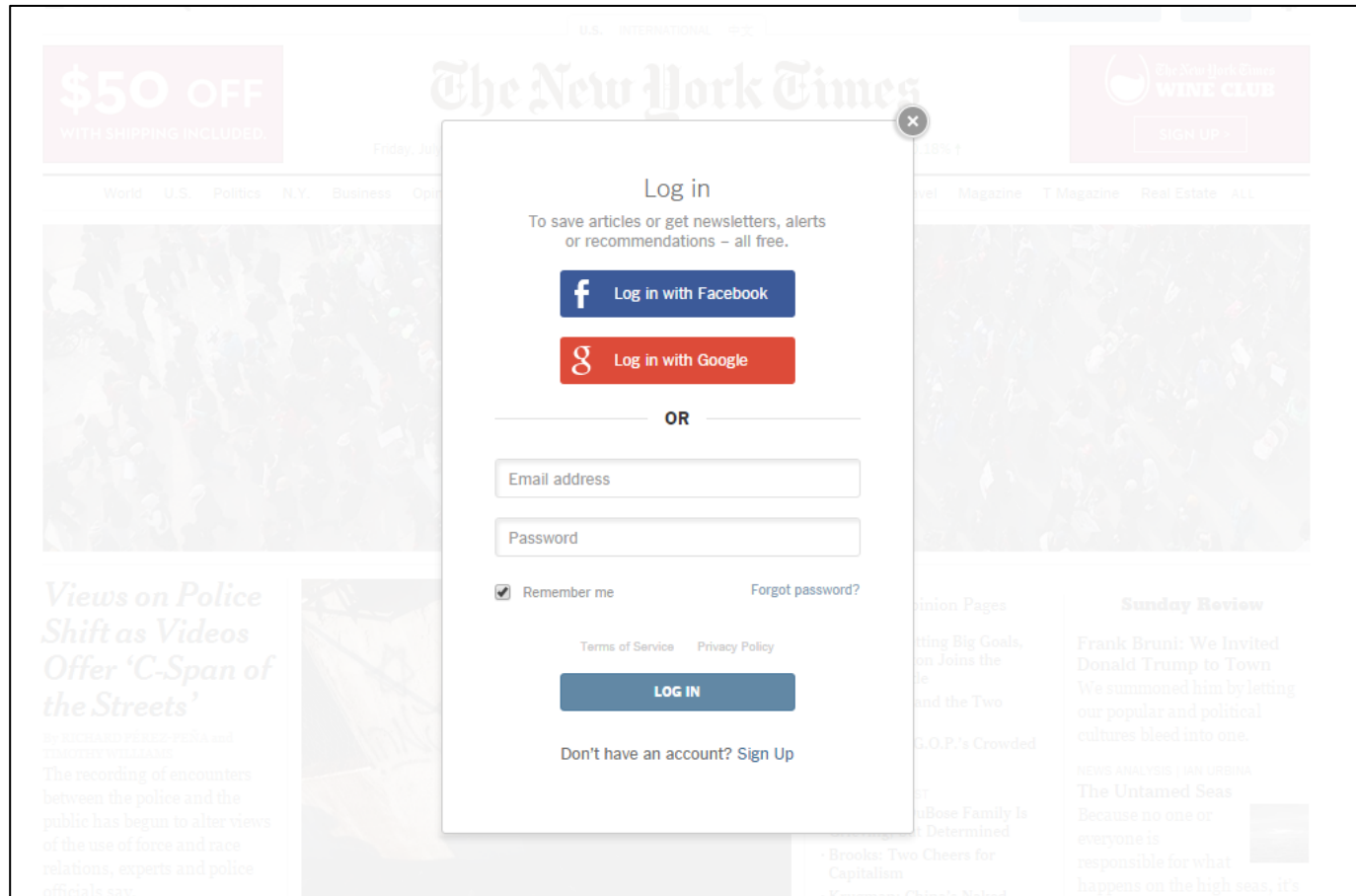


Provider-to-Patient Use Case



Source: [ONC, *Implementing CCDA for Meaningful Use Stage 2*](#)

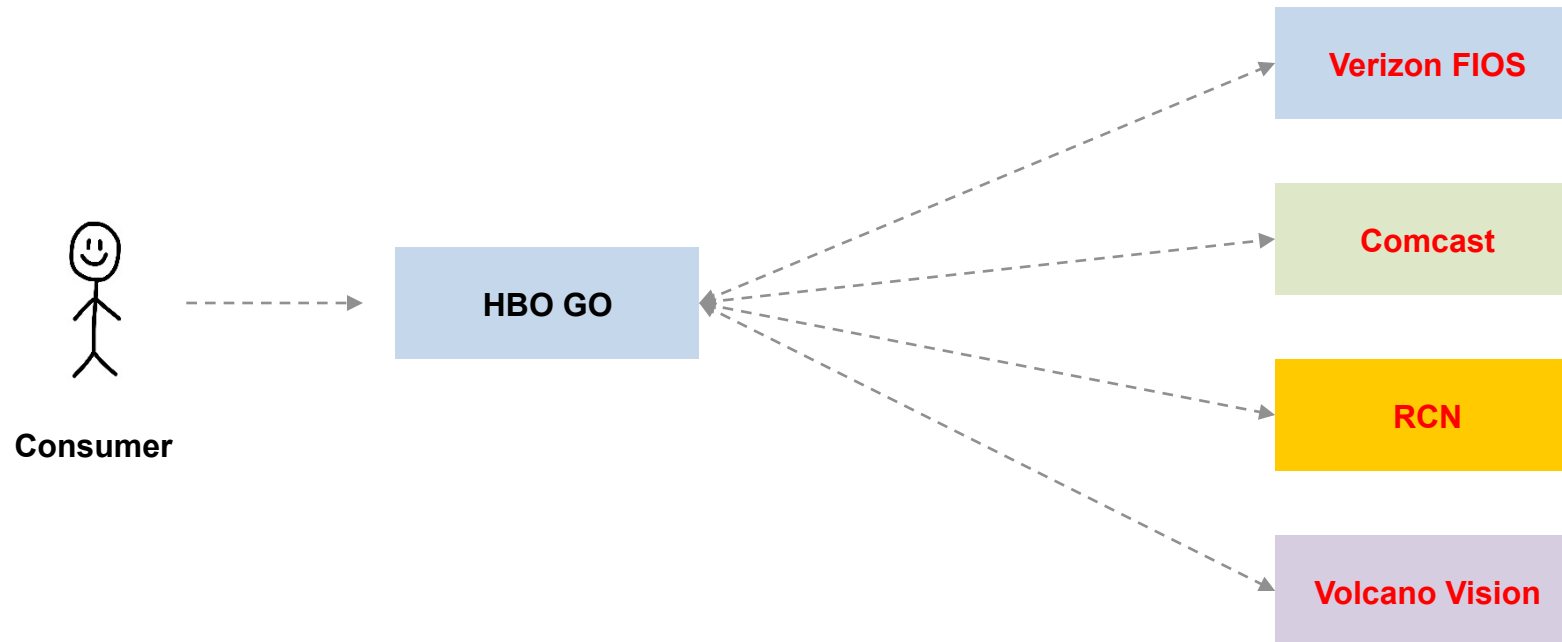
Why OAuth?



Why OAuth?

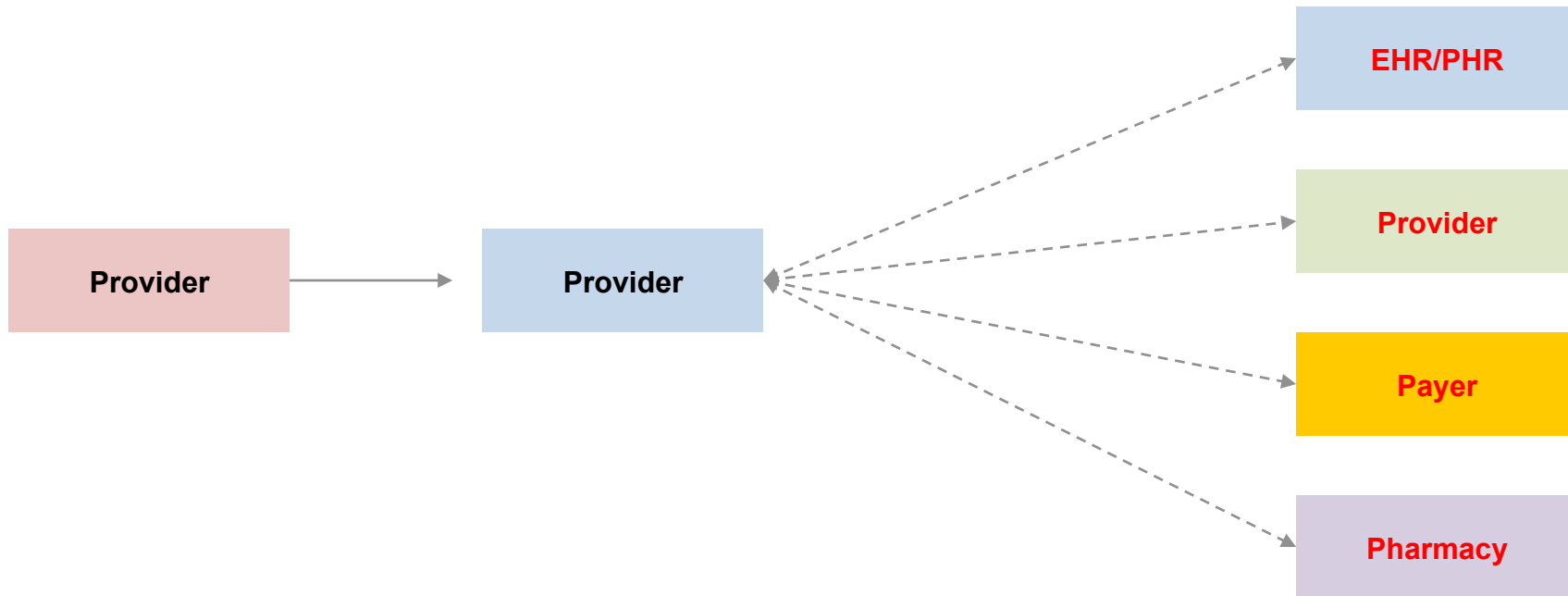


Why OAuth? (continued)



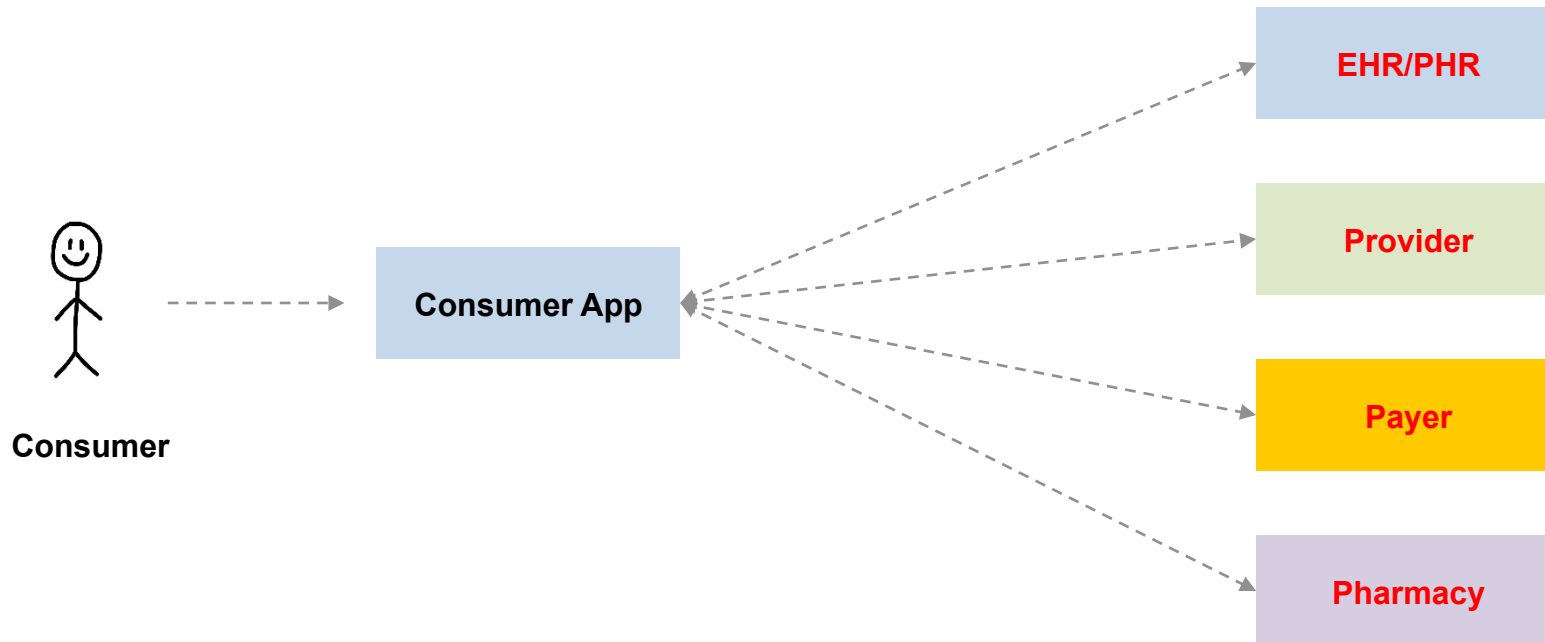
Red = Source of truth

Why OAuth? (continued)



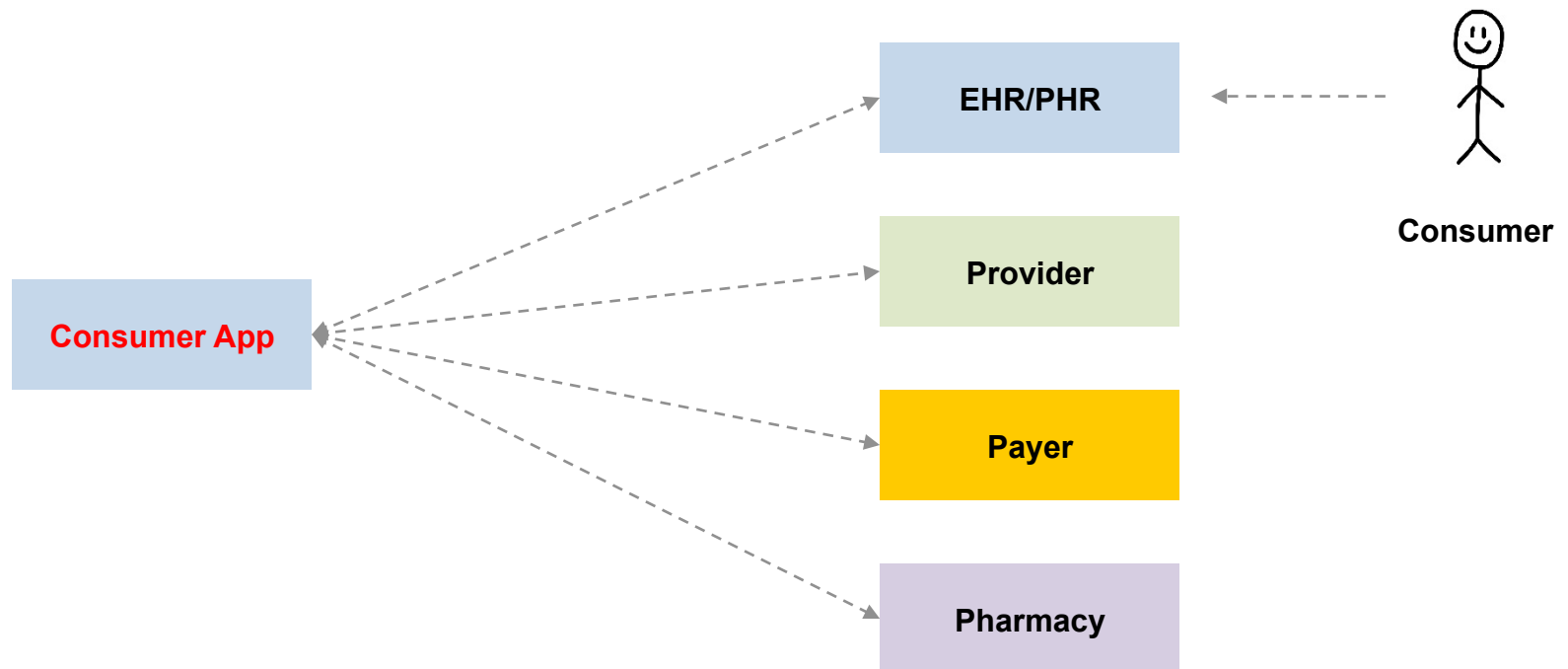
Red = Source of truth

Why OAuth? (continued)



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Why OAuth? (continued)



Red = Source of truth

Argonaut Pilot/Implementation Plan

Key aims of the Argonaut Project are to facilitate rapid adoption of FHIR APIs through:

- Narrowly focused initial use cases: Simple low-risk use cases that offer low barrier to entry, and an opportunity for organizations to get comfortable with new ways of doing things
- Specification and Implementation Guides: Rapid development of focused implementation guides for RESTful FHIR APIs and OAuth 2.0 security
- Market feedback: Market testing, pilot implementations and feedback, ideally while specification is still unstable
- Market diffusion: Engagement of broad array of market participants (vendors and providers)

Open participation in Argonaut Project

- Make available emerging specification and documentation artifacts for any interested vendor and provider participants
- Participation in structured testing sprints
- Participation in collaborative community for Q&A, information sharing, and results dissemination

Tentative Schedule

Implementation Phase	Time
Pre-Sprint Setup	Through Jul 31
Sprint 1 Document-level query (MHD)	Aug 3 – Aug 14
Sprint 2 Patient demographics	Aug 17 – Aug 28
Sprint 3 Problems, Meds, Allergies	Aug 31 – Sep 11
Sprint 4 TBD by community	TBD

Pre-Sprint Setup (1 of 2)

1. Enroll on tracking sheet, if you haven't already:

- https://docs.google.com/spreadsheets/d/1JAVbVh_8M6e6amNh-btVMC114zBIJe4XytDNKIOMyZM/edit?pli=1#gid=2060997323

2. Enroll in Argonaut google group, if you haven't already:

- <http://groups.google.com/group/argonaut-project>

3. Complete Data Use Agreement for access to Argonaut data set to get credentials to access Argonaut server, if you haven't already:

- http://www.hl7.org/documentcenter/public_temp_52FAB67C-1C23-BA17-0CF7A97A831DB7F8/wg/argonaut/Argonaut%20Project%20Data%20Use%20Agreement-1%20Mar%202015.pdf

4. Setup your FHIR server and/or client

- Instructions can be found in the Argonaut Project Participation Kit
- http://www.hl7.org/documentcenter/public_temp_53287C46-1C23-BA17-0C9B0FFFE74A575E/wg/argonaut/Argonaut%20Participation%20Kit%20Version%201.0-13%20March%202015.pdf

5. Confirm handshake with FHIR server

- <http://argonaut.healthintersections.com.au/>

Pre-Sprint Setup (2 of 2)

Two modes of testing

- Hub-and-spoke: participants test servers/clients against Argonaut Reference Implementation
- Pairwise: participants test servers/clients against each other

For Pre-Sprint we recommend that everyone get set up against the Argonaut Reference Implementation, and we will reach out to identify who would like to participate in Pairwise testing and document:

- Server endpoints and availability
- Security processes
- Data availability
- Any specific constraints or server expectations of clients

Argonaut Testing Dashboards

Sprint 1: CCDA query

	Reference Server 1	Server 2	Server 3	...	Server N
Reference Client 1	NA	Green	Red	Green	Green
Client 2	Green	Yellow	Green	Green	Red
Client 3	Red	Green	Yellow	Green	Green
...	Green	Green	Red	Red	Green
Client N	Red	Yellow	Green	Green	Yellow

Goal will be to share results for as much pairwise testing as possible

Argonaut Project Implementation Community

- **Argonaut Project Testing Community** (as of July 23, 2015)

1. Accenture
2. AcutaMeds Corp.
3. AEGIS
4. Aetna
5. Akana
6. American Medical Association
7. Amida Technology Solutions
8. Apigee
9. Applied Informatics
10. athenahealth
11. Bespoke Systems
12. BIDMC
13. Care at Hand
14. Carebox
15. Carefluence
16. Carolinas HealthCare System
17. Cerner
18. CipherHealth
19. DoD/VA
20. Drajer LLC
21. Duke Medicine
22. EMR Direct
23. Epic
24. GE
25. Geisinger
26. Hackensack University Medical Center
27. Health Samurai
28. Infor
29. Intermountain Healthcare
30. InterSystems Corporation
31. Massachusetts eHealth Collaborative
32. Mana Health
33. Mayo Clinic
34. McKesson
35. Medfusion
36. MedicaSoft
37. MEDITECH
38. MITRE
39. MobileSmith
40. ModuleMD
41. NavHealth
42. Netsmart
43. NextGen
44. Office of National Coordinator
45. Optum (UnitedHealth Group)
46. Orion Health
47. OSIA Medical
48. Partners Healthcare
49. Pokitdok Inc.
50. Practice Fusion
51. Premier Inc
52. Qvera
53. Redox Engine
54. Reliant Medical Group
55. River Rock Associates
56. RxREVVU
57. Surescripts
58. The Advisory Board Company
59. The Sequoia Project (formerly Healthway)
60. Trinity Health
61. UC Santa Cruz
62. UPMC
63. US Postal Service
64. Vetter Software
65. VigiLanz Corporation
66. VSee
67. xG Health Solutions
68. Xperterra

Argonaut Project Welcomes All Participants!

www.argonautproject.org

Micky Tripathi

Project Manager, Argonaut Project

President and CEO, Massachusetts eHealth Collaborative

mtripathi@maehc.org