



SMART on FHIR Capabilities and FHIR APIs. Are you ready for the 21st Century Cures Act?

There has been a massive regulatory push in the US towards ensuring that healthcare information systems become easier to integrate with each other.

To comply with ONC's Cures Act Final Rule, EHR vendors are extending their solutions with SMART on FHIR capabilities and FHIR APIs.

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Background

The need to integrate systems began within specific healthcare organizations. As soon as healthcare providers started using more than one software component, they quickly realized that ideally, those components should communicate with one another. Historically, at the very beginning, each healthcare organization only cared about internal system integration. The question of wider interoperability, with different systems within two completely different organizations using the same standards and protocols to exchange data, was not on the table.

Over time, there has been a regulatory push to make healthcare providers start using EHRs and practice management systems. This stems from the Affordable Care Act (ACA), also known as “Obama Care”. The government began to require healthcare providers to use a variety of information systems to manage patient data rather than maintain hard copy records. That was the first big step toward data integration.

After a few years, the push continued by introducing Meaningful Use (MU) requirements. Those requirements were implemented in three major stages. At each stage, providers had to report certain KPIs regarding how healthcare information systems were being used within the organization. Requirements had been strengthened to ensure that not only were systems installed, but that they were being used in a “meaningful way”.

In March 2020, the ONC’s 21st Century Cures Act Final Rule was promulgated to support seamless and secure access, exchange and use of electronic health information.

Information Blocking

The term information blocking describes a situation in which healthcare providers have patient information digitally stored within their own systems but do not make reasonable efforts to ensure that other authorized users outside their practices have access to this information as needed.

Information Blocking Use Cases

Case #1

A patient sees a primary care doctor. The patient's information is stored in the primary care physician's system. Assume that the physician refers the patient to a specialist, who has a separate practice in another location. The specialist will need access to all the patient information gathered by the primary care doctor. If the providers' information systems do not integrate with each other, the primary care physician is guilty of information blocking since their office cannot transfer medically necessary patient data.

The final rule introduced by ONC mandated that healthcare providers have information systems with FHIR APIs in place in order to receive certification, and in the near future part of the EHR certification process will include requirements around SMART on FHIR capabilities and FHIR APIs.

That creates an interesting situation because there is an EHR requirement that EHR vendors must fulfill in order to be certified and sell their product. On the other hand, healthcare providers become dependent on EHR vendors because it is healthcare providers who need to ensure they are not blocking information.

So, they should either push EHR vendors to speed up and introduce those capabilities into the EHRs they are already buying, or they should consider moving from the non-compliant EHR solution to one that does have SMART on FHIR. However, something needs to happen on both sides. EHR vendors need to make sure the FHIR APIs are there and healthcare providers need to make sure that the EHRs that they have do have those APIs.



Case #2

Speaking from the patient's perspective, it's one thing when two offices are talking to each other, but when a patient shares data, it is the patient's property. The healthcare provider takes responsibility for handling this data and making sure it is stored securely and remains private. The provider is also required to ensure that the patient has access to the data at all times.

Patient portals were one step toward ensuring access. But with the new final rule, data must be accessible on a machine-to-machine basis. Mobile device users spend time on a variety of applications. Those applications assume that there are APIs through which they can get access to relevant data.

Some of the apps, Apple Health for example, can potentially serve as aggregators of patient data. If you have multiple accounts within different EHRs at different providers, ideally what you want is to ensure that the accounts connected to this application can have data aggregated within the application, allowing the patient to use the data.

In order to get a comprehensive picture, you need more than a patient portal with a specific EHR. You need a tool that can gather all those data points, potentially from a few different systems, aggregate them, and present the data to the patient in a way that they can understand and act upon. The entire concept is based on the assumption that the party responsible for storing patient data will provide access to the patient, but through an API instead of a patient portal. It's not about the patient browsing the portal anymore – it's about another application that taps into the third party or healthcare provider's API on behalf of the patient.

According to the final rule, a patient portal is no longer sufficient. If you are not providing access through an API, you are not supporting data sharing or data access that is consumable by a computerized system. As such, you are guilty of information blocking. Both incentives and penalties are likely forthcoming.



Penalties

There is still no information regarding incentives or penalties. But based on past experience with meaningful use, there is every reason to believe both will come soon. Similarly, the rollout of meaningful use criteria started slow, and participation was not mandatory. Over time, incentives were introduced.

If a physician can demonstrate use of an EHR or other information system in a meaningful way, some expenses can be reimbursed. Eventually though, fines were introduced. By meeting the meaningful use requirements early on, some physicians were able to take advantage of the incentives program while others avoided fines.

Because of the COVID-19 pandemic, government agencies are relaxing the deadlines for healthcare providers to adhere to the 21st Century Cure Act Final Rule. However, fines will ultimately be introduced for those healthcare organizations not working towards compliance. When the COVID-19 pandemic abates, the demand for SMART on FHIR EHRs among healthcare providers will grow. For that reason, in order to get leg up on the competition EHR vendors should start thinking about upgrading their product with SMART on FHIR capabilities and FHIR APIs.

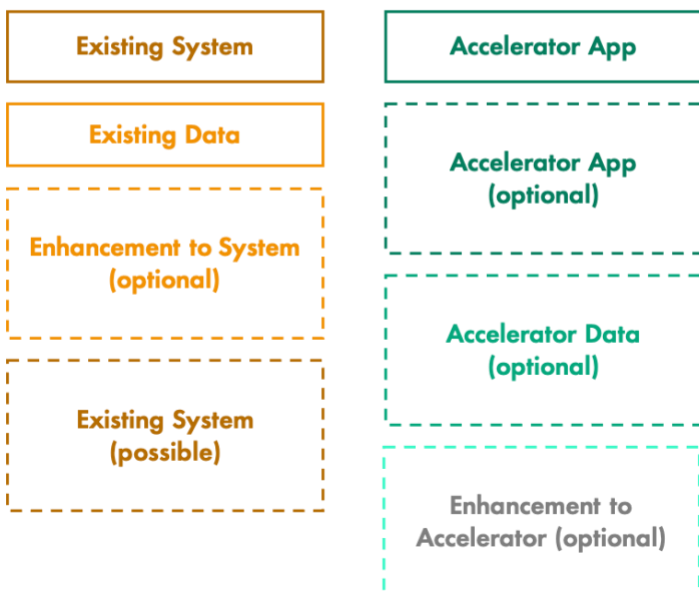
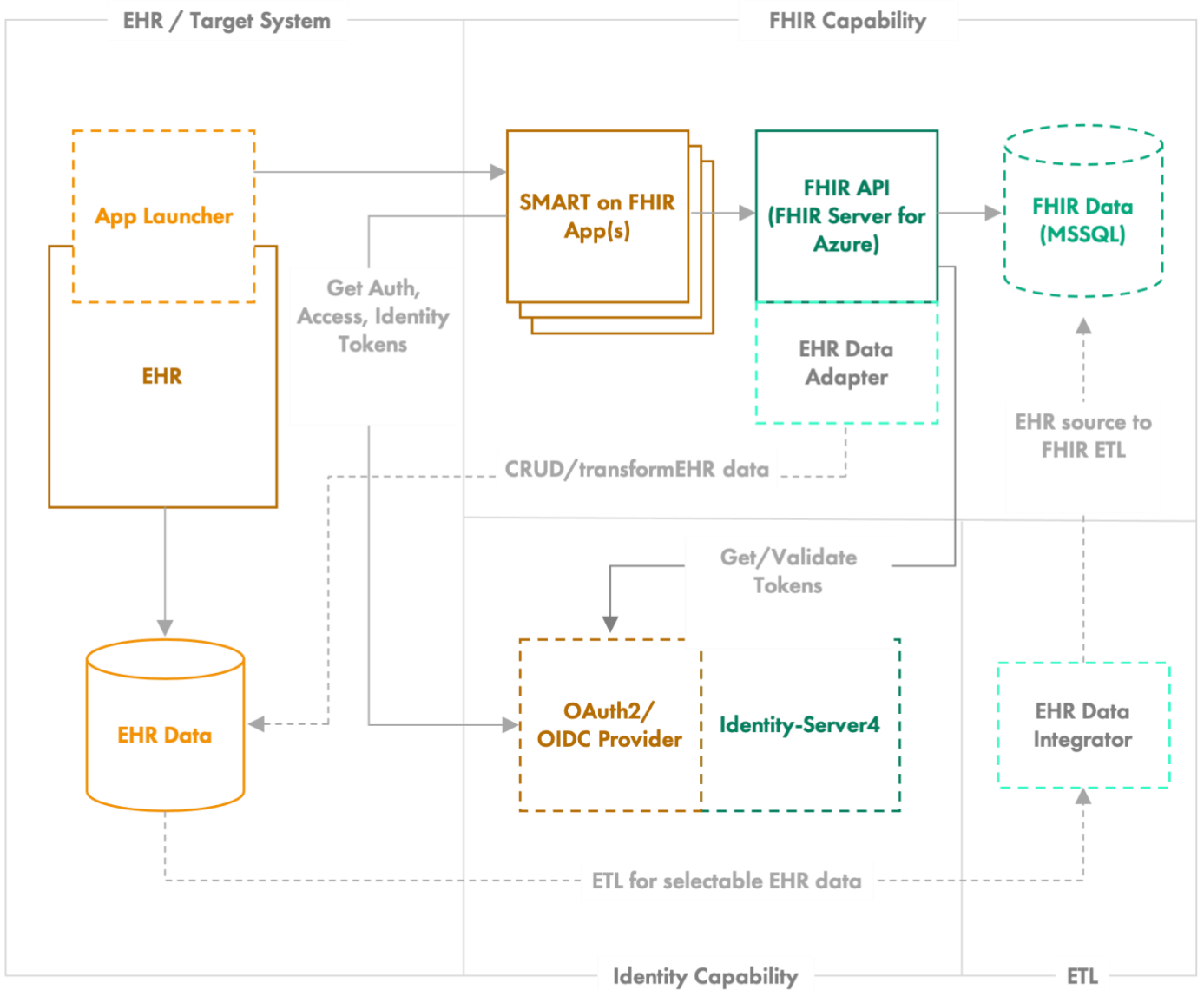
DataArt Offering

DataArt has used the knowledge and experience acquired over the years to develop an accelerator, an approach to extending an existing EHR solution with SMART on FHIR capabilities and FHIR APIs. We have experience with a multitude of different components that can help EHR vendors add those capabilities into their solution depending on the technology stack or type of infrastructure that the vendor is currently using. Our accelerator is an approach to determine which components to use, how to put them together, and how to make sure that those components are connected to the existing solution.

DataArt is uniquely positioned to help EHR vendors extend their existing solutions with SMART on FHIR capabilities and FHIR APIs. Being a part of the industry and a part of all the changes stemming from Meaningful Use criteria and from the Affordable Care Act for over a decade, DataArt has experience building EHRs from scratch, as well as with compliance and different regulations to ensure data security and privacy. DataArt offers a combination of the accelerator and additional custom software development services on top of the accelerator.

We have developed a FHIR adoption accelerator composed of:

- FHIR API built on the open source “FHIR Server for Azure”
- Adapter model for integrating FHIR API into existing medical record systems
- SMART on FHIR app launcher
- OAuth server built on IdentityServer4
- ETL approach for synchronizing data into the FHIR server



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About DataArt

DataArt is a global software engineering firm that takes a uniquely human approach to solving problems. With over 20 years of experience, teams of highly-trained engineers around the world, and deep industry sector knowledge, we deliver high-value, high-quality solutions that our clients depend on, and lifetime partnerships they believe in.

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