



#BETTERGLOBALHEALTH



HAPI FHIR 5.3.0

Smile CDR 2021.02.R01

Odyssey Release Webinar

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HAPI FHIR



Today's Agenda:

- What's New
- What's Coming
- Q&A

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Odyssey: New and Noteworthy

EMPI → MDM



- The EMPI module has now been renamed to MDM (Master Data Management)
- This means **any resource type** is a candidate for matching (previously only Patient and Practitioner were supported)
- New support for "golden resource" and survivorship rules has been implemented

Clinical Quality Language (CQL) \$evaluate-measure Support



- Fully integrated support has been added for the CQL \$evaluate-measure operation, which executes CQL and returns the result
- Ongoing performance work is continuing for the CQL module



Repository Validation Mode



- A new feature called *Repository Validation* has been added
- This allows declarative validation and conformance rules to be specified on a repository, e.g.
 - "All Patient resources must declare and conform to US Core or they will be rejected"
- Rules apply to normal REST creates/updates, but also to transactions, patches, and internal API calls

Upgrade to Hibernate Search 6



- This move means we now support Elasticsearch 6 and 7
- Support for Raw Lucene is now deprecated for production deployments
- **A resource reindex is required** after upgrading if you use this feature

Note: Elasticsearch is not mandatory. It can be used by the terminology service and some search enhancements. More advanced usage is planned.



elasticsearch

Repository Validation Mode



- HAPI FHIR:
 - New interceptor available
- Smile CDR:
 - New module config and scripting API available
 - New ability to create dedicated "Validation Support Repository"
 - HAPI FHIR Java interceptor can also be used

Normalized Quantity Searches



- A new optional feature will normalize Quantity indexes when they are saved using UCUM coding (only the search index is normalized, not the actual value in the resource)
- This allows a search for "**gt1000mL**" to match a resource with a value of "**2L**"



Build Enhancements



- HAPI FHIR is now built and tested on OpenJDK 15
 - HAPI FHIR now officially supports Java 8 - 15 (previously only 8-11 were supported)
 - Smile CDR still supports only Java 8 and 11, will hopefully add more soon
 - No plans yet to discontinue Java 8 support
- HAPI FHIR and Smile CDR are now automatically regularly passed through an OWASP CVE checker to catch dependencies with known CVEs of severity above *LOW*

Auto-Version References



- New configurable option to automatically append the current version to references at specific paths
- E.g. if `ExplanationOfBenefit.subject` should always point to the specific version of the Patient that was current when the EOB was created, Smile can automatically add the version to the reference
- The search `_include` parameter can also be configured to respect versioned references

Multi-Partition Searches



- It is now possible for a search on a partitioned server to span 2 or more specific partitions
- Previously the only options were "1 partition" or "all partitions"

New JPA Starter Project



- The JPA Starter project has been reworked as a Spring Boot application
- Config now lives in a YAML file

<https://github.com/hapifhir/hapi-fhir-jpaserver-starter/>

Thanks to Jens Villadsen for the awesome work!

Rewritten FHIR Gateway Module (aka Multi-Target Gateway)



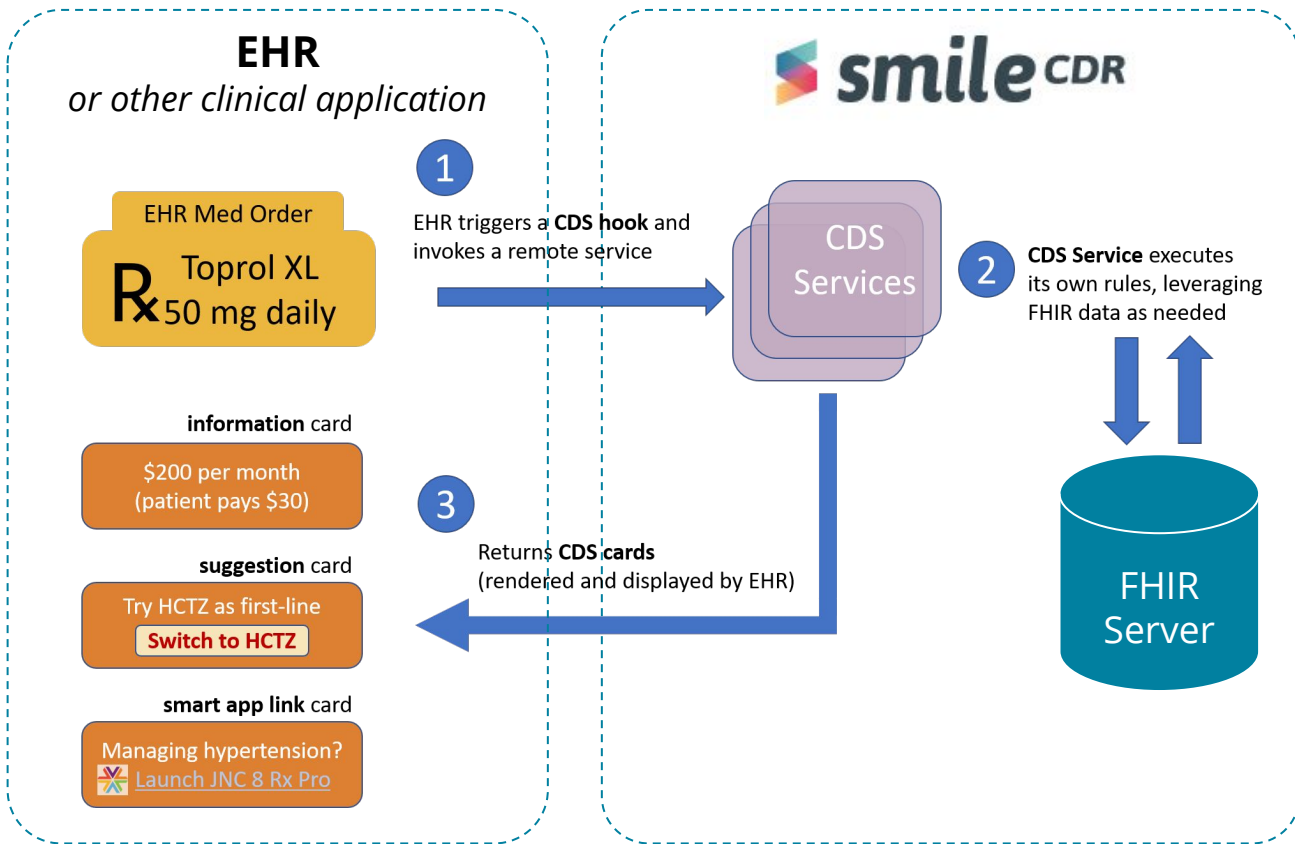
HAPI FHIR

- The FHIR Gateway module has been completely rewritten
- The gateway can now proxy **multiple FHIR servers** and aggregate the results
- Interceptors can be used to add complex routing logic
- The new gateway is **read-only**, write operations coming next

CDS Hooks Support



HAPI FHIR



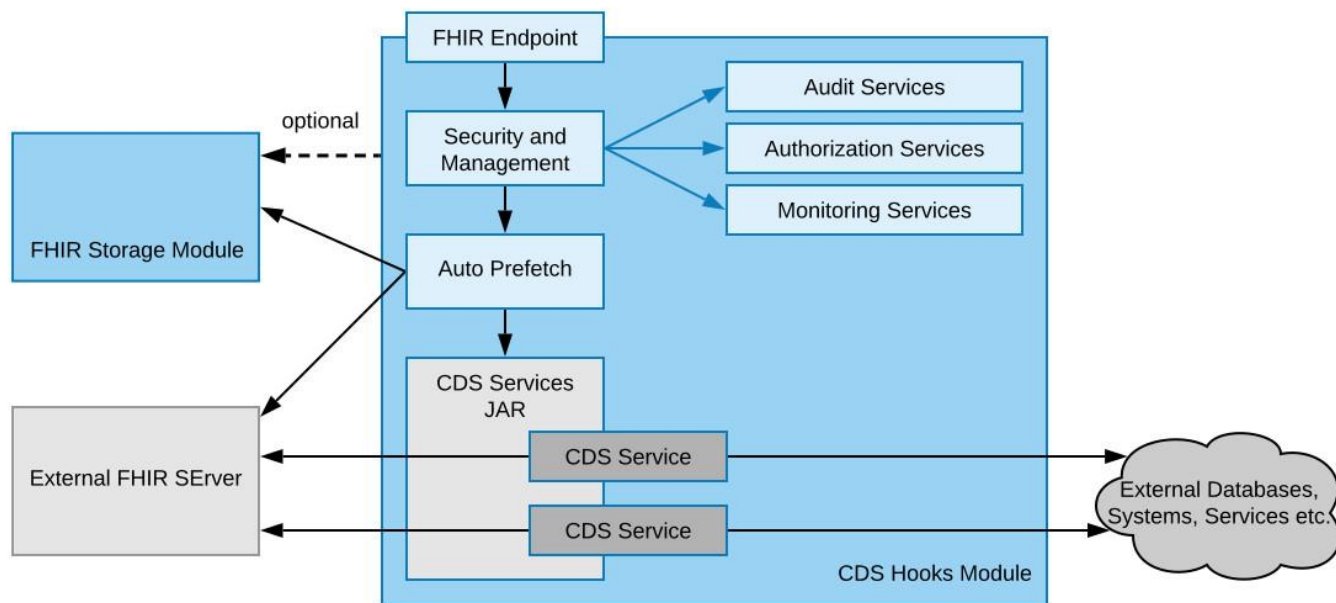
- Drive **Value-Based Care** by meeting clinicians where they're at, with info the EHR may not have
- Bring CDR-based **HIE** information to the EHR
- Streamline **Prior Authorization** workflows
- Use in combination with CQL to **close care gaps**

CDS Hooks Support



Smile CDR Provides:

- CDS-Hooks Authoring Framework
- Secure, Audited CDS-Hooks platform
- Auto pre-fetching from FHIR Repository



MongoDB Enhancements



- Added: Support for paging large search results
- Added: Support for many new search prefixes

ResourceBuilder



- A new HAPI FHIR utility has been contributed:
 FHIRPathResourceGeneratorR4
- This allows creation of a resource through FHIRPath expressions
- This is an experimental feature and could definitely use more work, help wanted!

Thanks to Marcel P for the contribution!

Channel Import Enhancements



HAPI FHIR

- Smile CDR Channel Import feature allows FHIR resources to be ingested via a delivery channel (JMS, Kafka)
- Channel messages can now contain CSV and arbitrary JSON payloads and a mapping API is available

New SQL Search Builder now default on HAPI FHIR and Smile CDR



- A completely rewritten SQL generator for FHIR searches was introduced in Numbats release but not enabled by default
- After extensive testing, we have enabled this feature by default on both HAPI FHIR and Smile CDR

Check the Changelogs!



- <https://hapifhir.io/hapi-fhir/docs/introduction/changelog.html>
- <https://smilecdr.com/docs/introduction/changelog.html>



What's Next?

Coming Up This Quarter



HAPI FHIR

- CMS "Final Rule" testing, implementation and enhancements
- An extra out-of-cycle release may be added to the schedule depending on need in order to support the July 1 go-live cutoff

HAPI FHIR Repo Move & New Snapshot Strategy

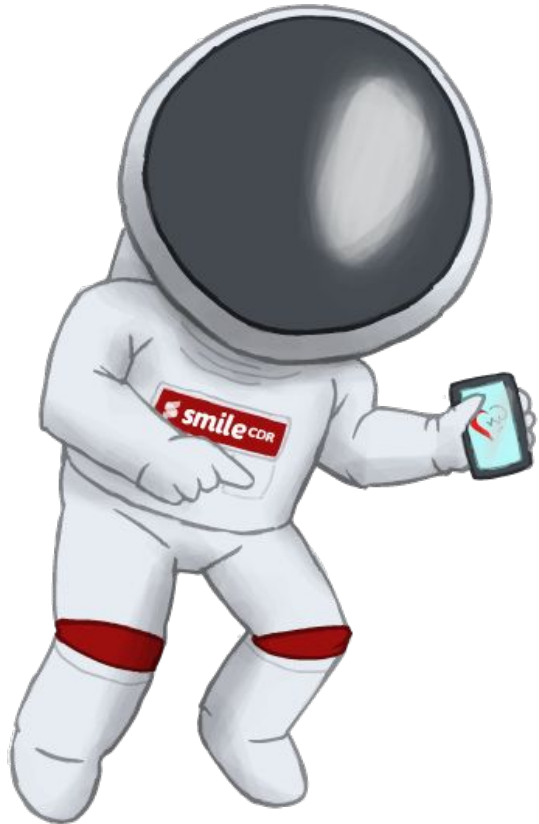


HAPI FHIR has moved in GitHub:

- <https://github.com/hapifhir/hapi-fhir/>

Note to HAPI FHIR snapshot users:

- We will be tweaking our numbering strategy between releases to provide a bit of stability
- Current build is: 5.4.0-PRE1-SNAPSHOT
- Later we'll ship: 5.4.0-PRE2-SNAPSHOT
- Final release: 5.4.0



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Q & A