

Features of Known Servers

Comments invited to discuss which features are important to users and why.

Could we have a URL also please, if there is a publicly facing test server available, or link to source / download?

Capability	Ontoserver	SnoChillies Server (NZ)	Terminz (NZ exemplar)	Snowstorm (SNOMED International)	Snow Owl (Open Source)	STS (PHAST)
Test endpoint	https://r4.ontoserver.csiro.au/fhir https://stu3.ontoserver.csiro.au/fhir	https://valentia.tech.snochillies.com/fhir	https://terminz.azurewebsites.net/fhir	https://snowstorm-alpha.ihtsdotools.org/fhir/metadata?_format=json https://dev-snowstorm.ihtsdotools.org/fhir/metadata?_format=json		https://topaze.phast.fr/resources-server/api/fhir Uses basic authentication: user = Connectathon pass = Fhir_Connectathon1
Source Code				https://github.com/IHTSDO/snowstorm	https://github.com/b2ihealthcare/snow-owl	
Supported FHIR Version(s)	R4 (FHIR version 4.0.1) STU3 + (FHIR version 3.02 + some R4 features)	STU3	R4 (FHIR version 3.3.0)	R4	R4	R4
Explicit SNOMED CT support	Y - supports multiple concurrent Editions and Versions	Y	Y	Y	Y - single edition, multi-edition, multi-extension deployments, more info here: https://docs.b2i.sg/snow-owl/index-2	Y
Implicit SNOMED CT ValueSets	Y - Refset and Isa and ECL (R4)	Y - Refset and Isa	Y - Refset and Isa and ECL	Y - Refset and Isa and ECL (R4)	Y - Refset and Isa and ECL (R4)	Y (full, Isa, ECL, Refset)
Implicit SNOMED CT ConceptMaps	Y - Historical, Inactivation Indicators, READ CTV3 map, ICD-O map, Australian Substance map, and ARTGID map. Others configurable at deploy time	N	N	Y - Historical, Inactivation Indicators, READ CTV3 map, ICD-O map, ICD-10	Y - Historical, Inactivation Indicators, READ CTV3 map, ICD-O map, and any maps created runtime	N
ValueSets defined using ECL	Y - all features of v1.4 including cardinality constraints	N	Y - all features of v1.3 - including cardinality constraints - except concrete values	Y - v1.3	Y - all features of v1.6, including concrete values, cardinality constraints, and custom unofficial filters (https://github.com/b2ihealthcare/snomed-ecl)	Y - all features of v1.3 except concrete values
Create/Read /Update/Delete of FHIR CodeSystems	Y	Read only	Read only	Read only	Read-only, CUD via dedicated REST API and authoring environment	Y: CRUD
Create/Read /Update/Delete of FHIR ValueSets	Y	Read only	Read only	Read only	Read-only, CUD via dedicated REST API and authoring environment	Y: CRUD
Create/Read /Update/Delete of FHIR ConceptMaps	Y	Read only	Read only	Read only	Read-only, CUD via dedicated REST API and authoring environment	Y
Able to expand ValueSets defined in terms of arbitrary (known) FHIR CodeSystems using filters	Y	Y	Y	Y	Y	Y

Support for other well-known code systems	LOINC, CLAML (including ICD 10, OPCS, ICPC 2), OWL (including HPO)	LOINC, ICD 10	LOINC, NZULM /NZMT, RXNORM (limited)	N	LOINC, ICD-10/AM/CM /UK/CA, ATC, OPCS	LOINC, EDQM Standard terms, ICD-10 (in process)
Search of FHIR CodeSystems	Y	Y	Y	N	Y	Y
Search of FHIR ValueSets	Y	Y	Y	N	Y	Y
Search of FHIR ConceptMaps	Y	Y	Y	N	Y	Y
SMART on FHIR support	Y	N	N	N	N	N
\$lookup	Y	Y	Y	Y	Y	Y
\$expand	Y	Y	Y	Y	Y	Y
\$validate-code	Y	Y	Y	N	Y	Y
\$subsumes	Y	Y	Y	N	Y	Y
\$closure	Y	Y	Y	N	Y	Y
\$find-matches	Y - FHIR spec is lacking clear definition of semantics	N	partially for SCT - operation definition incomplete	N	N	N
\$translate	Y - includes several implicit algorithmic maps	Y (Read Code, ICD 10, LOINC, NZPOC	Y	Y	Y	Y
SNOMED post-coordination support	Y	N	N	N	N	N
Support for close-to-user form post-coordinated expressions?	N				N	
Support for normal-form post-coordinated expressions?	Y				N	
• \$lookup for SNOMED post-coordinated expressions	Y		N		N	N
• \$expand for SNOMED post-coordinated expressions	Y		N		N	N
• \$validate-code for SNOMED post-coordinated expressions	Y		N		N	N
• \$subsumes for SNOMED post-coordinated expressions	Y		N		N	N

<ul style="list-style-type: none"> \$closure for SNOMED post-coordinated expressions 	Y		N		N	N
<ul style="list-style-type: none"> \$find-matches for SNOMED post-coordinated expressions 	N		N		N	N
<ul style="list-style-type: none"> \$translate for SNOMED post-coordinated expressions 	Y - no special additional support, but PCEs can be included in a ConceptMap and used in \$translate as-is		N		N	N
Support for the ExpansionProfile resource (this was removed in R4)	N	N	N	N	N	N
Support for CodeSystem.supplements (R4)	Y - display, designations, and properties can also include post-coordinated expressions	N	Y - partial	N	Y - display, designations, properties	Y - display, designations, properties
Support for the NamingSystem resource	Y including \$preferred-id		Y (including the \$preferred-id operation)	N	Y	Y
Support for the TerminologyCapabilities resource (R4)	Y		Y	N	Y	Y
Support for the StructureDefinition resource	Y - CRUD		N		N	N
Support for the Bundle resource	Y - CRUD		Y (e.g. for accepting batches of \$validate-code and \$translate requests)		Y - read-only, CUD via dedicated REST API	N
Support for other FHIR Resource types	OperationDefinition - Read only AuditEvent - Create only		Location & Organization (Read-Only support for NZ Health Provider Index Facilities & Organizations).			Definitional resources for catalogs of healthcare products and services: ActivityDefinition, PlanDefinition, ObservationDefinition, SpecimenDefinition, Composition, ChargeItemDefinition
\$validate	Y - All resource types		N	N	N	N
\$convert	XML to/from JSON STU3 R4					
Additional to FHIR	Content syndication via ATOM				CUD API, syndication between servers using official release packages, dedicated authoring environment for content management	
Security	OAuth2 including SMART-on-FHIR Resource-level protection using FHIR security labels				Fully customizable resource access management, filtering and security	