

SNOMED CT UK Edition Technical Overview

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Purpose of this Document

This document provides technical information relating to the UK Edition of SNOMED CT®

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1 Introduction

This document provides technical information associated with the UK specific files included in this release of SNOMED CT (SCT) UK Edition and should be referenced in conjunction with the “UK SNOMED CT General Overview”, “UK SNOMED CT Subset Overview” and the “SNOMED CT to ICD10 and OPCS4 Map Table Technical Specification and Implementation Guidance (UK Edition)” documents.

For a full technical description of the files please refer to the “[Technical Implementation Guide](#)”.

Supporting International SNOMED CT documentation can be found at <https://confluence.ihtsdotools.org/display/DOC>

2 Important technical changes

2.1 SNOMED International Changes

As an essential part of SNOMED CT Logic Profile Enhancements, two Web Ontology Language (referred to as OWL) refsets have been developed to represent logic definitions following the international standard of OWL 2 Web Ontology Language.

The OWL Ontology reference set includes essential metadata information about an ontology, such as, namespaces, ontology URI and ontology version URI.

The OWL Axiom reference set includes only property axioms, such as property chains, transitive properties, and reflexive properties, that cannot be fully represented by the RF2 stated and inferred relationship files.

More information on this change can be found in the July 2018 International Edition release notes:

<https://confluence.ihtsdotools.org/display/RMT/SNOMED+CT+July+2018+International+Edition+-+SNOMED+International+Release+notes>

In anticipation of the UK also moving to OWL axiom files, from the 27.0.0 release going forward, the UK Edition will contain only empty Stated Relationship files.

2.2 Changes to packaging and encoding of UK Edition

This section describes the changes to the packaging of the UK biannual release of SNOMED CT. The following sections describe those changes. A webinar was also delivered to user communities over July/August 2019, and can be accessed here: https://hscic.kahootz.com/connect.ti/t_c_home/view?objectid=54390437

2.2.1 Module Dependency changes from June 2019 onwards

All SNOMED release content is explicitly assigned to a ‘module’, and all modules are versioned. This modularisation of content serves two official purposes: to state who has current editorial control of each individual component; and to declare - for any particular

version of any particular module in hand - which versions of which *other* release content modules must also be loaded in order that the whole becomes consistently processable. This data dependency is declared in the Module Dependency ssRfset. It permits larger data load configurations to be achieved as lego brick style constructions built from smaller release components, by declaring which combinations of which versions will 'work' together. Significant changes have been made to the dependency declared between the modules of the UK Edition from the June 2019 release, in the Module Dependency ssRfset.

These changes are summarised diagrammatically below:

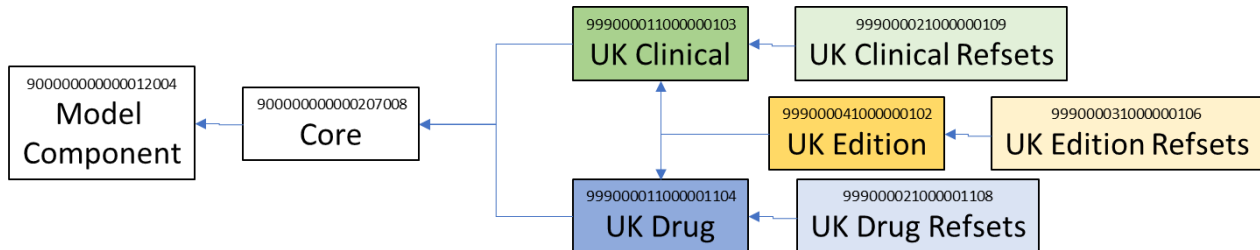


Figure 1: UK Edition Module Dependency Tree prior to June 2019

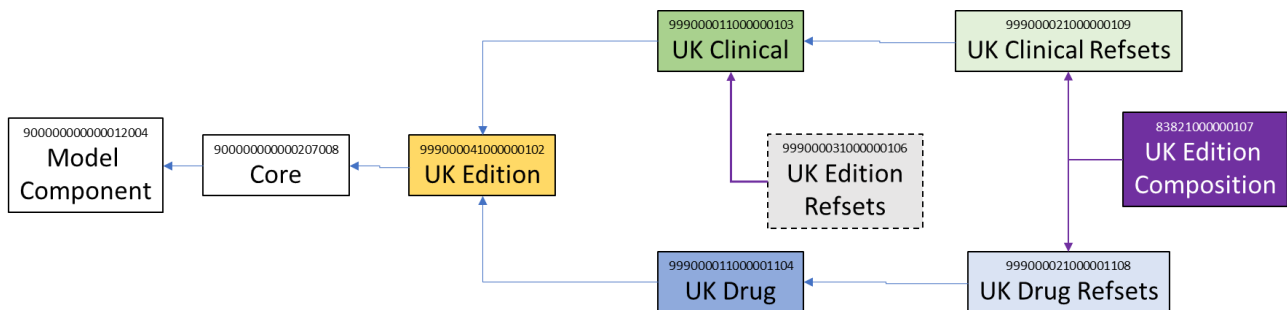


Figure 2: UK Edition Module Dependency Tree from June 2019

Following this reordering of the dependencies, a significant volume of content has then been moved between the modules; this is detailed later in this document.

Note that in addition to the official uses of modules as described above, there is also now an 'unofficial' use in the context of FHIR API terminology service calls. These URI-based calls require a syntax by which they may state which particular configuration of SNOMED content a given terminology question is supposed to be run over: which version of whose content? However, a limitation of the URI specification is that both these important elements of the question must be possible to express using only one argument rather than a list of arguments. To meet this requirement for the 'what content scope?' of the terminology services calls to be expressible as a single parameter, the FHIR community have co-opted SNOMED's content modularisation system, including its module dependency tree. Thus, a query for e.g. all descendants `<<49062001|Device (physical object)|` but requested to be run over `99900001100000103|SNOMED CT United Kingdom clinical extension module (core metadata concept)|` will in fact use the stated module dependency tree for that module in order to expand the argument, and determine which versions of which *other* modules this single argument also implies before executing the question. In the example scenario described, it will not return any devices declared to exist within `999000011000001104|SNOMED CT United Kingdom drug extension module (core metadata concept)|` because the requested module has no stated dependency on that content.

2.2.2 Changes to release filenames and subfolder structure

To fully exploit the module changes, the subfolder structures within the externally published distribution will change:

	PREVIOUSLY	FUTURE																
UKDRUG	<table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>SnomedCT_UKDrugRF2_PRODUCTION_20190515T000001Z</td> <td>2 590 935 034</td> </tr> </tbody> </table>	Name	Size	SnomedCT_UKDrugRF2_PRODUCTION_20190515T000001Z	2 590 935 034	<table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>SnomedCT_UKDrugRF2_PRODUCTION_20190612T000001Z</td> <td>2 636 387 143</td> </tr> <tr> <td>SnomedCT_UKEditionRF2_PRODUCTION_20190601T000001Z</td> <td>596 499 825</td> </tr> </tbody> </table>	Name	Size	SnomedCT_UKDrugRF2_PRODUCTION_20190612T000001Z	2 636 387 143	SnomedCT_UKEditionRF2_PRODUCTION_20190601T000001Z	596 499 825						
Name	Size																	
SnomedCT_UKDrugRF2_PRODUCTION_20190515T000001Z	2 590 935 034																	
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SnomedCT_UKDrugRF2_PRODUCTION_20190612T000001Z	2 636 387 143																	
SnomedCT_UKEditionRF2_PRODUCTION_20190601T000001Z	596 499 825																	
UKCLINICAL	<table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>SnomedCT_InternationalRF2_PRODUCTION_20180731T120000Z</td> <td>2 718 818 416</td> </tr> <tr> <td>SnomedCT_UKClinicalRF2_PRODUCTION_20181031T000001Z</td> <td>2 893 080 720</td> </tr> </tbody> </table>	Name	Size	SnomedCT_InternationalRF2_PRODUCTION_20180731T120000Z	2 718 818 416	SnomedCT_UKClinicalRF2_PRODUCTION_20181031T000001Z	2 893 080 720	<table border="1"> <thead> <tr> <th>Name</th> <th>Size</th> </tr> </thead> <tbody> <tr> <td>SnomedCT_InternationalRF2_PRODUCTION_20180731T120000Z</td> <td>2 718 818 416</td> </tr> <tr> <td>SnomedCT_UKClinicalRefsetRF2_PRODUCTION_20190601T000001Z</td> <td>268 623 925</td> </tr> <tr> <td>SnomedCT_UKClinicalRF2_PRODUCTION_20190601T000001Z</td> <td>1 908 299 935</td> </tr> <tr> <td>SnomedCT_UKEditionRF2_PRODUCTION_20190601T000001Z</td> <td>596 499 825</td> </tr> </tbody> </table>	Name	Size	SnomedCT_InternationalRF2_PRODUCTION_20180731T120000Z	2 718 818 416	SnomedCT_UKClinicalRefsetRF2_PRODUCTION_20190601T000001Z	268 623 925	SnomedCT_UKClinicalRF2_PRODUCTION_20190601T000001Z	1 908 299 935	SnomedCT_UKEditionRF2_PRODUCTION_20190601T000001Z	596 499 825
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However, many data load approaches customarily involve entirely discarding any explicit subfolder structure found in the release distribution and instead unzipping all the files within into a single flat folder. To enable this implementation choice to continue, all files within the distribution must have a unique name. As a result, release files have a new 4-character file-naming infix component (UKED, UKCL, UKCR, UKDG) that corresponds to the folder in which they originally sat; for example:

```
sct2_Concept_UKCLFull_GB1000000_yyyymmdd.txt
sct2_Concept_UKCRFull_GB1000000_yyyymmdd.txt
sct2_Concept_UKEDFull_GB_yyyymmdd.txt
sct2_Concept_UKDGFull_GB1000001_yyyymmdd.txt
sct2_Concept_Full_INT_yyyymmdd.txt
```

The examples above also show that the files within the UK Edition module subfolder no longer carry a 1000000|1000001 namespace element. This is an optional subcomponent within the file-naming convention, but if used at all should only be used where all the content within the file is drawn from that single, stated namespace. Both the International Edition and UK Edition module files contain componentIds drawn from multiple namespaces and so should not incorrectly specify a limitation to only one.

To allow time for the necessary adaptations to data load scripts, both the 28.0.0 UK Clinical and all 28.x.0 UK Drug releases through to April 2020, were provided in BOTH folder and filename formats. The 29.0.0 (April 2020) release was planned to be the last provided in both formats; with only the newer format being provided after that. However due to the significant change to what was planned for the April 2020 release (in response to the COVID-19 pandemic), PRODUCTION releases will continue to be distributed in the old format for the remainder of 2020, with a BETA release in the revised format being made available in the UK SNOMED CT test releases section on TRUD. From the first scheduled release in 2021 (27 January), all PRODUCTION releases of UK Clinical and Drug will adopt the BETA encoding. All releases will then continue to be available in parallel in the older LEGACY encoding until the end of March 2021, after which the LEGACY encoding will be permanently withdrawn.

2.2.3 Changes in relationship between Full and Snapshot tables

Since the beginning of SNOMED in 2002, National Release Centres such as in the UK have always been asked to identify when new a locally articulated requirement for new content is, in fact, more globally relevant. Although they will typically add new content to the national extension in order to meet the local request in a timely manner, the content is marked 'Pending Move' and submitted to SNOMED International for consideration as to whether the content should in fact be added to the common International Edition. This avoids the potential scenario were a common clinical notion ends up with entirely different SNOMED

identifiers across multiple countries, a highly undesirable scenario for those trying to craft code-driven clinical decision support or reporting algorithms for a global market.

Under RF1, when such a concept was ultimately added to the International Edition, it would be done using a completely different identifier. The original National Release Centre component would then be retired in a later release of its own product, and an indirected 'code equivalence' statement added to link the old and new identifiers. This identifier churn was the motivation for the UK's History Substitution and Query Table products.

Under RF2, the rules are permitted to be different because the continuing editorial ownership of any given concept at any arbitrary point in time is no longer determined by inspection of the namespace it comes from. Instead, this is recorded only by reference to the module the component is published in at that time point. In short, unlike in the RF1 world, under RF2 content can and does move in both directions between the International Release and NRC release distributions without changing SNOMED CT component identifier.

Whilst this movement of componentIds significantly reduces the 'identifier churn' problem, it creates a new problem instead:

Consider the case where a concept already published as part of the UK Clinical Extension has now been accepted for incorporation within the International Edition without changing its identifier. From that point on, the historical FULL file for both the International Edition and the UK extension will in perpetuity always contain at least one entry about that component. Accordingly, after the component move, the matching Snapshot of the International Edition release will also always include a row stating the active/inactive status of the Component (using our original identifier). But this exposes a subsidiary question: how should the Snapshot of the Clinical Extension be computed:

- A. As what you get if you load the Full tables from only the Clinical Extension and apply the snapshot extraction logic to that data
- B. As what you get if you load the Full tables from *both* the Clinical Extension *and* also all other modules on which it states a dependency, i.e. including the International Edition, and then apply the same snapshot extraction logic to that merged data

The outcome of A and B have a significant difference: using logic A, *both* the International Edition *and* the Clinical Extension snapshots will contain a reference to all moved components, appearing to claim (at different timepoints) that they both 'own' them and also possibly disagreeing as to the component's active/inactive status. In data load configurations built as the raw concatenation of all snapshot files, this duplication of component information will very likely result in a range of implementation errors, from invalid primary keys up to queries that will now fail because they return a set not a single value.

Under logic B, the moved component only appears in the International Edition snapshot, because all earlier dated statements found from UK Extension modules within the merged Full tables are superseded by later dated module ownership statements from International Edition modules.

This issue was not previously encountered because, although the RF2 mechanism supports the movement of components without identifier change in the manner set out above, by agreement SNOMED International has not used it until this year, in recognition of the UK's authoring platform still being rooted in RF1. They have until recently always changed the

component identifier when accepting suggestions from the UK to promote our content into theirs.

The movement of UK content between our own modules, as detailed here, has however exposed the same phenomenon and implementation problem slightly earlier and rather more obviously than would otherwise have happened anyway: the January 2019 International Edition already includes one component identifier from the UK namespace; SNOMED International are keen to extend use of the standard mechanism – movement without identifier change - because this is the norm for their dealings with all other National Release Centres. The special exemption for the UK imposes an authoring and technical burden on them that they are keen to reduce.

Accordingly, from the June 2019 release, UK distribution snapshots will be computed as per Logic B. Whilst this significantly reduces the need to post-process concatenated Snapshot loads from multiple sources so as to remove duplicate component references – and completely removes it in respect of our own modules, it may not completely remove that requirement entirely. The known exception scenario could occur if content were allowed to move from the International Edition back to the UK Extension without an identifier change, in which eventuality the component would remain cited in both the International Edition snapshot and our own, unless and until we negotiate a change to the license terms that currently require us to redistribute the International Edition files ‘as is’ and entirely unaltered.

2.2.4 Motivation for module changes

During 2019, the UK Release Centre successfully completed the planned of move its entire SNOMED CT authoring, bundling and publishing activities onto a completely new and externally sourced platform. The module changes described below are partly forced by this platform change, and partly enabled by the UK SNOMED content being now for the first time maintained in a truly RF2-native environment. This necessarily includes a more rigid application of many underlying RF2 design principles, including specifically the implications of any particular declared modularisation of its content.

Overall, the underlying issues needing to be addressed include:

Whereas the UK Clinical and UK Drug extensions were previously maintained within a single database and platform, the new environment rigidly separates them so we now require a more formal mechanism by which to manage content in which they both share an editorial interest.

Because the UK Clinical and UK Drug extensions were historically maintained within a single environment, they were able to create content that blurred the boundaries between them. Published content has as a result never fully agreed with the claimed module dependency; they were always in truth mutually co-dependent with both extensions including some small volume of references to components only found in the other.

From an implementation perspective, the most obvious manifestation of this blurred boundary was that if your data load goal was in fact restricted to either [International Edition + UK Clinical] or [International Edition +UK Drug] and so not [International Edition + *both* UK Clinical *and* UK Drug], you could not follow guidance and compute the preferred term for all concepts in your intended final data configuration unless you also downloaded the missing extension and extracted from it some significant volume of description and Realm Language content.

There is increasing national demand for much shorter lead times in respect of our ability to author and publish new refset content (as also, more generally, for all terminology content change requests). The 4-weekly release cycle for UK Drugs allows it to respond fairly quickly to new refset requests. By contrast, the release schedule for new clinical refsets has always been rigidly tied to the biannual UK Clinical extension release schedule, for at least two reasons:

- the metadata hierarchy elements (concept, description, relationships) required as part of the RF2 standard to announce even the *existence* of a new refset were historically authored into the UK Clinical module, even though the actual data enumerating the content of any refset was placed in the UK Clinical Reference Set module.
- There was no clear technical mechanism, precedent, process or packaging by which only the required metadata and content for new refsets could be extracted from the authoring platform and then delivered as a free-standing release artefact, independent of the usual biannual release schedule and packaging

The goal of changing the modules in which published content sits, and how it is published, is to address all of the above. The lack of advance notice of these changes to suppliers is very regrettable, but was unavoidable under the platform change timetable: we remained uncertain whether the changes could even be achieved until the week before the June 1st deadline.

2.2.5 Detail of module changes

Content moved into the UK Edition Module

Both UK Clinical and UK Drug extensions have historically added UK-specific descriptions to concepts in the International Core, in either the 1000000 or 1000001 namespaces as appropriate. This is normally done so that the new description can also be nominated as the preferred term within the relevant part of the NHS Realm Language Refset (RLR). An important consequence therefore is that in order to determine the preferred term for all concepts in the international Edition, you require at least *some* descriptions and *some* RLR member rows from both extension distributions. This content from both extensions is now moved into the UK Edition module.

In order to make the above possible, it is also necessary to move all metadata elements describing both parts of the NHS RLR into the UK Edition module as well; this comprises all relevant entries in the concept, relationship, description, RLR and the Refset Description Refset.

Of all simple refsets previously published as part of the UK Clinical Extension distribution, only one actually had any content that was in fact a mixture of components from both published extensions: the Device Type Refset (refsetId = 999000401000000107). In fact, of its over ~1850,000 currently active members, all but the following 18 are to be found in *either* the International Edition *or* in the UK Drug Extension:

844931000000107 Totally implantable venous access device (physical object)
869511000000103 Peripheral intravenous cannula (physical object)
990191000000101 Large adult size blood pressure cuff (physical object)
990201000000104 Standard adult size blood pressure cuff (physical object)
990211000000102 Small adult size blood pressure cuff (physical object)
990221000000108 Paediatric size blood pressure cuff (physical object)

239871000000107 Protective personal flotation device (physical object)
 240151000000101 Left limb prosthesis (physical object)
 240161000000103 Right limb prosthesis (physical object)
 242531000000104 Abdominal pad dressing (physical object)
 239171000000101 Immobilisation by box splint (physical object)
 297001000000107 Left hand prosthesis (physical object)
 297011000000109 Left lower arm prosthesis (physical object)
 297021000000103 Right hand prosthesis (physical object)
 297031000000101 Right lower arm prosthesis (physical object)
 320411000000102 Cast foot orthosis (physical object)
 320421000000108 Non-cast foot orthosis (physical object)
 320451000000103 Accommodative foot orthosis (physical object)

Further, although the Device Type member list itself was always published within the UK Edition Reference Set module (which accordingly had appropriately declared dependencies), its metadata was – as with the metadata for all clinical refsets - in the UK Clinical module and it was always actually published only within the UK Clinical Extension release distribution. To correct this anomaly, both the metadata for the refset and the 18 concepts themselves are now in the UK Edition module, and the member list rows were removed to the UK Drug Reference Set module for the October 2019 release.

Finally, all metadata describing the existence of all 10 UK module concepts (to be found under 900000000000443000 Module (core metadata concept)) are also moved into the UK Edition module; this enables us to exchange data between our internal environments in order to continue the maintenance of the other UK Edition content already described.

83821000000107 SNOMED CT United Kingdom composition module (core metadata concept)
 999000011000000103 SNOMED CT United Kingdom clinical extension module (core metadata concept)
 9990000110000001104 SNOMED CT United Kingdom drug extension module (core metadata concept)
 999000021000000109 SNOMED CT United Kingdom clinical extension reference set module (core metadata concept)
 9990000210000001108 SNOMED CT United Kingdom drug extension reference set module (core metadata concept)
 999000031000000106 SNOMED CT United Kingdom Edition reference set module (core metadata concept)
 999000041000000102 SNOMED CT United Kingdom Edition module (core metadata concept)
 999000051000000104 United Kingdom Terminology Centre maintained module (core metadata concept)
 9990008710000001102 United Kingdom maintained pharmacy module (core metadata concept)
 999003121000000100 United Kingdom maintained clinical module (core metadata concept)

Content moved into the UK Clinical Reference Set module

As stated above, the growing requirement is for a much shorter lead time for the publication of new refset artefacts.

Historically, the metadata components of all Simple Reference Sets from within the UK Clinical Extension were stated in the UK Clinical module, and the member row data in the (dependent) UK Clinical Reference Set module. This was in turn one reason for the long lead time, with new Refset releases being tied to the biannual UK Clinical release schedule, whence came their metadata.

This situation could be resolved going forward by the simple expedient of authoring both the metadata and member row data into the UK Clinical Reference Set module, but for new refsets only going forward. This would however create an obvious irregularity in respect of which module data of a certain class is to be found in. Given all the other module changes already happening at this point in time it seemed more sensible to move the historically authored metadata to, thus achieving the consistent application of a content modularisation rule.

Content moved into the UK Drug Reference Set modules

Although the 4-weekly release schedule of the UK Drug extension means that there is significantly less concern over the existing lead time for a new Drug refset, and therefore no immediate or even anticipated requirement to be able to publish the UK Drug Reference Set module content to its own release schedule, the same 'consistent application of a content modularisation rule' has been applied. The metadata for all existing UK Drug refsets is therefore moved into the UK Drug Reference Set module where it now sits together with the information recording the actual membership of those same refsets.

2.2.6 Benefit of module and packaging changes

As described in further detail above, the principal expected benefits of these changes include:

Easier build for data load configurations wanting to load *either* the UK Drug *or* UK Clinical Extensions, but not both whilst still being able to determine the unique preferred term for all concepts in the load;

Easier build for data load configurations that want to load both the UK Drug and UK Clinical Extensions but that therefore do not want to load the UK Edition Module content twice;

Shorter lead time to the publication of new clinical refsets;

Delivers NRC capability to manage the sharing of certain content between its newly rigidly separated authoring environments for UK Drug and UK Clinical;

Provision of a means for the FHIR community to frame requests that are to be resolved over the entire UK Edition content [International Edition + UK Clinical + UK Drug, including Reference Set modules]. This is now encapsulated by the 83821000000107|SNOMED CT United Kingdom composition module (core metadata concept) and its stated dependencies;

Rationalisation of the module dependency and the published data so that they agree with one another (though NB not yet fully completed at this release in respect of content still sitting in the UK Edition Reference Module).

2.3 Refset changes

Please refer to the Refset Overview document for details of changes to refsets in general.

For the May 2020 release, there was also one additional refset created:

1322291000000109 National Health Service Care Record Element association reference set (foundation metadata concept)

This replaced the withdrawn SCTCREMAP product, formerly part of the NHS Data Migration Subpack. The content of this new cRefset product ships in separate files in the refset/content subfolders of the release.

Data previously displayed in the SCTCREMAP product as follows:

MAPID	SCT_CONCEPTID	CREID	MAPSTATUS	EFFECTIVEDATE
{a97499cf-3f34-11e4-a733-00ff5b292fba}	100000000	163071000000106	1	20140918
{1fef02ca-3e40-11de-8412-a43d42931edb}	10000001000001107	163071000000106	1	20090511
{1e9e887f-3e40-11de-8412-a43d42931edb}	10000006	163131000000108	1	20090511
{07b26ebf-f1a2-11e5-a545-b8ca3ac18f3c}	1000001000000103	163141000000104	1	20160324
{1fef02ee-3e40-11de-8412-a43d42931edb}	1000001000001104	163071000000106	1	20090511
{1e9e8904-3e40-11de-8412-a43d42931edb}	10000011000001109	163071000000106	1	20090511
{e84261c7-a298-11e0-a3de-f38bdfbd1637}	1000004	163001000000103	1	20110629
{1fb31d6f-3e40-11de-8412-a43d42931edb}	100001000000107	163131000000108	1	20090511
{1fef056d-3e40-11de-8412-a43d42931edb}	1000010000001106	163071000000106	1	20090511
{1fef06a2-3e40-11de-8412-a43d42931edb}	100005	0	1	20090511
{1e9e9399-3e40-11de-8412-a43d42931edb}	10003008	0	1	20090511

In the replacement cRefset, it displays as follows:

id	effectiveTime	active	moduleid	refsetid	referencedComponentid	targetComponentid
fe56948a-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	100000000	163071000000106
fe569519-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	100000006	163131000000108
fe569529-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	1000001000000103	163141000000104
fe569535-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	10000011000001109	163071000000106
fe569543-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	1000004	163001000000103
fe56954f-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	100001000000107	163131000000108
fe56955b-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	1000010000001106	163071000000106
fe569567-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	100001001	163071000000106
fe569573-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	1000011000000101	163141000000104
fe56957f-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	10000111000001105	163071000000106
fe56958b-96ed-11ea-bbef-08002728e8ff	20200513	1	999000031000000106	1322291000000109	100002008	163071000000106

The tables are similar, but with the addition of two extra columns in the new cRefset (for moduleid and refsetid).

The key difference in table content is that the SCTCREMAP table *always* had an entry in the CREID column for every SNOMED CT code, and where a code could not in fact be assigned to any Care Record Element, a 0 appeared in the CREID column; the new encoding only ever lists those codes that have ever had a valid CREID mapping, and some SNOMED CT codes will therefore never appear in the new cRefset table. Codes that cannot be assigned a Care Record Element are either left out of the table completely or have inactive membership of the refset.

In summary, the previous table contained all codes, but those without a CRE type were marked explicitly with a zero. In the new table, only codes with a valid CRE type exist as active members of the refset. Codes without a current CRE type are not active members of the refset, and so cannot be found in a lookup.

2.4 Folder and file name changes

See sections 2.2.2 and 2.2.3

2.5 RF2 map changes

2.5.1 Retired map refsets

The following retired map refset members have been removed from the main UK Edition SNOMED CT release package and are now available in a separate content pack called “UK SNOMED CT Clinical Edition Cross-map Historical Files, RF2: Full” on [TRUD](#).

999001341000000108 Office of Population Censuses and Surveys Classification of Interventions and Procedures Version 4.6 complex map reference set

999001911000000108 Office of Population Censuses and Surveys Classification of Interventions and Procedures Version 4.7 complex map reference set

999001331000000104 International Classification of Diseases, Tenth Revision, Fourth Edition United Kingdom complex map reference set

999001921000000102 International Classification of Diseases, Tenth Revision, Fourth Edition, five character code United Kingdom complex map reference set

2.6 Important information from previous releases

2.6.1 Background to the production of the UK Edition of SNOMED CT in Release Format 2 (RF2)

In the UK, SNOMED CT was first released in 2001 using Release Format 1. When Release Format 2 (RF2) was introduced, in order to migrate the UK releases to the RF2, a number of decisions were made in collaboration with suppliers and the UK governance board. The baseline RF2 release for the UK Edition of SNOMED CT was provided in July 2013. It was agreed that this baseline would not reflect the substantial changes that were implemented in the early releases of the UK Edition as a result of quality work following the amalgamation of SNOMED RT and CTV3. The baseline therefore reflected all SNOMED CT content from the UK extensions from 1st January 2004 up to and including the April 2015 release of both the UK Clinical Extension and the UK Drug Extension. Since that date, the biannual releases have been provided in RF2 format. The consequence of this is that the various terminology changes from release to release prior to January 2004 are not accurately reflected in the RF2 full release; this was widely consulted on and to date no known issues have arisen as a result of this decision.

2.6.2 Baseline changes for April 2018

A number of changes to facilitate the RF2 product status change to “Supported” have been made from the April 2018 UK Edition and UK Drug Interim releases.

The following rows have been removed from the module dependency reference set full files, to clear a problem that we were referencing components before they actually came into existence. This impacts both the clinical and pharmacy releases. Rows taken from the UK Edition file `der2_ssRefset_ModuleDependencyFull_GB1000000_YYYYMMDD.txt` are:

id	effectiveTime	active	moduleId	refSetId	referencedcomponentId	sourceEffectiveTime	targetEffectiveTime
e579b45f-d8c9-307d-e044-0003ba13161a	20020731	1	999000021000000109	900000000000534007	999000011000000103	20020731	20020731
e579b45f-d8c9-307d-e044-0003ba13161a	20030131	1	999000021000000109	900000000000534007	999000011000000103	20030131	20030131
e579b45f-d8c9-307d-e044-0003ba13161a	20030731	1	999000021000000109	900000000000534007	999000011000000103	20030731	20030731

e579b45f-d8ca-307d-e044-0003ba13161a 20020731 31 20020731	1	999000011000000103	900000000000534007	900000000000207008	200207
e579b45f-d8ca-307d-e044-0003ba13161a 20030131 31 20030131	1	999000011000000103	900000000000534007	900000000000207008	200301
e579b45f-d8ca-307d-e044-0003ba13161a 20030731 31 20030731	1	999000011000000103	900000000000534007	900000000000207008	200307
f0658b79-0cb6-116a-e044-0003ba13161a 20020731 31 20020731	1	999000021000000109	900000000000534007	900000000000207008	200207
f0658b79-0cb6-116a-e044-0003ba13161a 20030131 31 20030131	1	999000021000000109	900000000000534007	900000000000207008	200301
f0658b79-0cb6-116a-e044-0003ba13161a 20030731 31 20030731	1	999000021000000109	900000000000534007	900000000000207008	200307
f0658b79-0cb7-116a-e044-0003ba13161a 20020731 31 20020731	1	999000021000000109	900000000000534007	90000000000012004	200207
f0658b79-0cb7-116a-e044-0003ba13161a 20030131 31 20020731	1	999000021000000109	900000000000534007	90000000000012004	200301
f0658b79-0cb7-116a-e044-0003ba13161a 20030731 31 20020731	1	999000021000000109	900000000000534007	90000000000012004	200307
f0658b79-0cb8-116a-e044-0003ba13161a 20020731 31 20020731	1	999000011000000103	900000000000534007	90000000000012004	200207
f0658b79-0cb8-116a-e044-0003ba13161a 20030131 31 20020731	1	999000011000000103	900000000000534007	90000000000012004	200301
f0658b79-0cb8-116a-e044-0003ba13161a 20030731 31 20020731	1	999000011000000103	900000000000534007	90000000000012004	200307

Rows taken from the UK Drug Interim file der2_ssRefset_ModuleDependencyFull_GB1000001_YYYYMMDD.txt are:

id	effectiveTime	active	moduleId	refSetId	referencedcomponentId	sourceEffectiveTime	targetEffectiveTime
e579b45f-d8c4-307d-e044-0003ba13161a 20030731 31 20030731			1	999000031000000106	900000000000534007	999000041000000102	200307
e579b45f-d8c5-307d-e044-0003ba13161a 20030731 31 20030731			1	999000041000000102	900000000000534007	999000011000000103	200307
e579b45f-d8c6-307d-e044-0003ba13161a 20030731 31 20030731			1	999000041000000102	900000000000534007	999000011000001104	200307
e579b45f-d8c7-307d-e044-0003ba13161a 20030731 31 20030731			1	999000021000001108	900000000000534007	999000011000001104	200307
e579b45f-d8c8-307d-e044-0003ba13161a 20030731 31 20030731			1	999000011000001104	900000000000534007	900000000000207008	200307
f0658b79-0cb9-116a-e044-0003ba13161a 20030731 31 20020731			1	999000011000001104	900000000000534007	90000000000012004	200307
f0658b79-0cba-116a-e044-0003ba13161a 20030731 31 20030731			1	999000021000001108	900000000000534007	900000000000207008	200307

f0658b79-0cbb-116a-e044-0003ba13161a 20030731 31 20020131	1	999000021000001108	900000000000534007	90000000000012004	200307
f0658b79-0cbc-116a-e044-0003ba13161a 20030731 31 20030731	1	999000041000000102	900000000000534007	900000000000207008	200307
f0658b79-0cbd-116a-e044-0003ba13161a 20030731 31 20020131	1	999000041000000102	900000000000534007	90000000000012004	200307
f0658b79-0cbe-116a-e044-0003ba13161a 20030731 31 20030731	1	999000031000000106	900000000000534007	999000011000000103	200307
f0658b79-0cbf-116a-e044-0003ba13161a 20030731 31 20030731	1	999000031000000106	900000000000534007	999000011000001104	200307
f0658b79-0cc0-116a-e044-0003ba13161a 20030731 31 20030731	1	999000031000000106	900000000000534007	900000000000207008	200307
f0658b79-0cc1-116a-e044-0003ba13161a 20030731 31 20020131	1	999000031000000106	900000000000534007	90000000000012004	200307
e579b45f-d8c4-307d-e044-0003ba13161a 20030131 31 20030131	1	999000031000000106	900000000000534007	999000041000000102	200301
e579b45f-d8c5-307d-e044-0003ba13161a 20030131 31 20030131	1	999000041000000102	900000000000534007	999000011000000103	200301
e579b45f-d8c6-307d-e044-0003ba13161a 20030131 31 20030131	1	999000041000000102	900000000000534007	999000011000001104	200301
e579b45f-d8c7-307d-e044-0003ba13161a 20030131 31 20030131	1	999000021000001108	900000000000534007	999000011000001104	200301
e579b45f-d8c8-307d-e044-0003ba13161a 20030131 31 20030131	1	999000011000001104	900000000000534007	900000000000207008	200301
f0658b79-0cb9-116a-e044-0003ba13161a 20030131 31 20020131	1	999000011000001104	900000000000534007	90000000000012004	200301
f0658b79-0cba-116a-e044-0003ba13161a 20030131 31 20030131	1	999000021000001108	900000000000534007	900000000000207008	200301
f0658b79-0cbb-116a-e044-0003ba13161a 20030131 31 20020131	1	999000021000001108	900000000000534007	90000000000012004	200301
f0658b79-0cbc-116a-e044-0003ba13161a 20030131 31 20030131	1	999000041000000102	900000000000534007	900000000000207008	200301
f0658b79-0cbd-116a-e044-0003ba13161a 20030131 31 20020131	1	999000041000000102	900000000000534007	90000000000012004	200301
f0658b79-0cbe-116a-e044-0003ba13161a 20030131 31 20030131	1	999000031000000106	900000000000534007	999000011000000103	200301
f0658b79-0cbf-116a-e044-0003ba13161a 20030131 31 20030131	1	999000031000000106	900000000000534007	999000011000001104	200301
f0658b79-0cc0-116a-e044-0003ba13161a 20030131 31 20030131	1	999000031000000106	900000000000534007	900000000000207008	200301
f0658b79-0cc1-116a-e044-0003ba13161a 20030131 31 20020131	1	999000031000000106	900000000000534007	90000000000012004	200301

e579b45f-d8c4-307d-e044-0003ba13161a 20020731 31 20020731	1	999000031000000106	900000000000534007	999000041000000102	200207
e579b45f-d8c5-307d-e044-0003ba13161a 20020731 31 20020731	1	999000041000000102	900000000000534007	999000011000000103	200207
e579b45f-d8c6-307d-e044-0003ba13161a 20020731 31 20020731	1	999000041000000102	900000000000534007	999000011000001104	200207
e579b45f-d8c7-307d-e044-0003ba13161a 20020731 31 20020731	1	999000021000001108	900000000000534007	999000011000001104	200207
e579b45f-d8c8-307d-e044-0003ba13161a 20020731 31 20020731	1	999000011000001104	900000000000534007	900000000000207008	200207
f0658b79-0cb9-116a-e044-0003ba13161a 20020731 31 20020131	1	999000011000001104	900000000000534007	900000000000012004	200207
f0658b79-0cba-116a-e044-0003ba13161a 20020731 31 20020731	1	999000021000001108	900000000000534007	900000000000207008	200207
f0658b79-0cbb-116a-e044-0003ba13161a 20020731 31 20020131	1	999000021000001108	900000000000534007	900000000000012004	200207
f0658b79-0cbc-116a-e044-0003ba13161a 20020731 31 20020731	1	999000041000000102	900000000000534007	900000000000207008	200207
f0658b79-0cbd-116a-e044-0003ba13161a 20020731 31 20020131	1	999000041000000102	900000000000534007	900000000000012004	200207
f0658b79-0cbe-116a-e044-0003ba13161a 20020731 31 20020731	1	999000031000000106	900000000000534007	999000011000000103	200207
f0658b79-0cbf-116a-e044-0003ba13161a 20020731 31 20020731	1	999000031000000106	900000000000534007	999000011000001104	200207
f0658b79-0cc0-116a-e044-0003ba13161a 20020731 31 20020731	1	999000031000000106	900000000000534007	900000000000207008	200207
f0658b79-0cc1-116a-e044-0003ba13161a 20020731 31 20020131	1	999000031000000106	900000000000534007	900000000000012004	200207

There are historical mismatches in the association reference set, four components are referenced before they exist. To resolve this the four rows have had the effective time changed from 20100310 to 20100401. So the following rows in UK Drug Interim file der2_cRefset_AssociationFull_GB1000001_YYYYMMDD.txt and der2_cRefset_AssociationSnapshot_GB1000001_YYYYMMDD.txt:

id	effectiveTime	active	moduleId	refsetId	referencedComponentId	targetComponentId
01db7315-3d6f-5e18-817d-7893641ccbb2 106	20100310	1	999000011000001104	900000000000525002	10539101000001105	709711000000
6b745f4d-d735-57e8-933f-14fdc8aac68d 100	20100310	1	999000011000001104	900000000000525002	10539201000001103	709721000000
cde9e9be-a908-5a13-a312-6b53d8448b8d 09	20100310	1	999000011000001104	900000000000525002	10539001000001109	7097010000001
10b161d7-6209-5a63-8285-62555bc62e16 03	20100310	1	999000011000001104	900000000000525002	10539301000001107	7097310000001

Have become:

01db7315-3d6f-5e18-817d-7893641ccb2 20100401 106	1	999000011000001104	900000000000525002	10539101000001105 709711000000
6b745f4d-d735-57e8-933f-14fdc8aac68d 20100401 100	1	999000011000001104	900000000000525002	10539201000001103 709721000000
cde9e9be-a908-5a13-a312-6b53d8448b8d 20100401 09	1	999000011000001104	900000000000525002	10539001000001109 709701000000
10b161d7-6209-5a63-8285-62555bc62e16 20100401 03	1	999000011000001104	900000000000525002	10539301000001107 709731000000

2.6.3 Changes to the Module Dependency Reference Set for April 2017

As part of continuous quality improvement, several back-dated changes were made to the Module Dependency Reference Set (900000000000534007) for releases 23.0.0 and 23.1.0. In summary the changes were:

- For effective times 2006-05-01 onwards, dates representing the dependency of the SNOMED CT United Kingdom Edition reference set module (999000031000000106) on the SNOMED CT United Kingdom drug extension module (999000011000001104) were updated to align with the dates representing the dependency of the SNOMED CT United Kingdom Edition module (999000041000000102) on the SNOMED CT United Kingdom drug extension module (999000011000001104).
- Modules effective as at 2016-12-07 and 2017-01-04 that were stated incorrectly as being dependent on modules effective as at 2016-01-31 or 2016-04-01 had those target effective times corrected to 2016-07-31 or 2016-10-01 respectively.
- In keeping with the Release File Specification (section 4.2.11. Module Dependency Reference Set) where it is stated that "...If module-A depends on module-B and module-B depends on module-C, the dependency of module-A on module-C must still be stated explicitly...", dependencies prior to 2004-01-31 have now been exhaustively represented.
- Missing dependencies for the United Kingdom drug extension module (999000011000001104) prior to 2004-01-31 were added.
- For effective times before 2011-04-01, dates representing dependency on the SNOMED CT model component module (900000000000012004) were updated to align with the single effective date of the model component module (2002-01-31) which remained unchanged during that period.

NHS Digital as the UK National Release Centre (UK NRC) for SNOMED CT have opted to make these changes directly to the released rows, rather than as a series of state valid row inactivation and replacements. This approach has benefits, but it should be noted that these changes cannot be introduced into an existing data store by the application of a Delta file; instead an approach that replaces previous Full data will be required.

2.6.4 Top level folder name change

The top level folder in the International SNOMED CT RF2 release has been renamed with an uppercase “PRODUCTION” replacing “Production”. We have followed this convention for the UK release, changing:

From: SnomedCT_UKClinicalRF2_Production_YYYYMMDDT000001Z

To: SnomedCT_UKClinicalRF2_PRODUCTION_YYYYMMDDT000001Z

2.6.5 Inclusion of empty files (with header rows)

SNOMED International release package convention dictates that releases need to contain all relevant files, regardless of whether or not there is content to be included in each particular release. Therefore, the package contains a mixture of files which contain both header rows and content data, and also files that are intentionally left blank (including only a header record). The reason that these files are not removed from the package is to draw a clear distinction between:

1. Files that have been deprecated (and therefore removed from the package completely), due to the content no longer being relevant to RF2 in this or future releases, and
2. Files that just happen to contain no data in this particular release (and are therefore included in the package but left blank, with only a header record), but are still relevant to RF2, and could therefore potentially contain data in future releases.

This allows users to easily distinguish between files that have purposefully been removed or not, as otherwise if files in option 2 above were left out of the package it could be interpreted as an error, rather than an intentional lack of content in that release.

NHS Digital have adopted the same approach for UK releases, ensuring that blank files are released where the UK doesn't currently have any data to release but may do in the future.

3 SNOMED CT Load Testing QA

All release files are given a final quality assurance check by loading them into a constrained schema within a relational database. As the SNOMED CT international files are redistributed within the UK SNOMED CT release, these release files are also tested.

To fully test RF2 the corresponding UK Drug Extension release data is also loaded. RF2 Load testing verifies Delta, Snapshot and Full files. The constrained RF2 schema in this document is created from the Full data files. The schema is designed purely for testing purposes and is not intended for any live SNOMED CT implementations. Primary and foreign keys are generated and additional QA through a set of SQL scripts is also performed. In order to generate the correct keys some additional columns are required and have been added, three additional tables have been utilised as well.

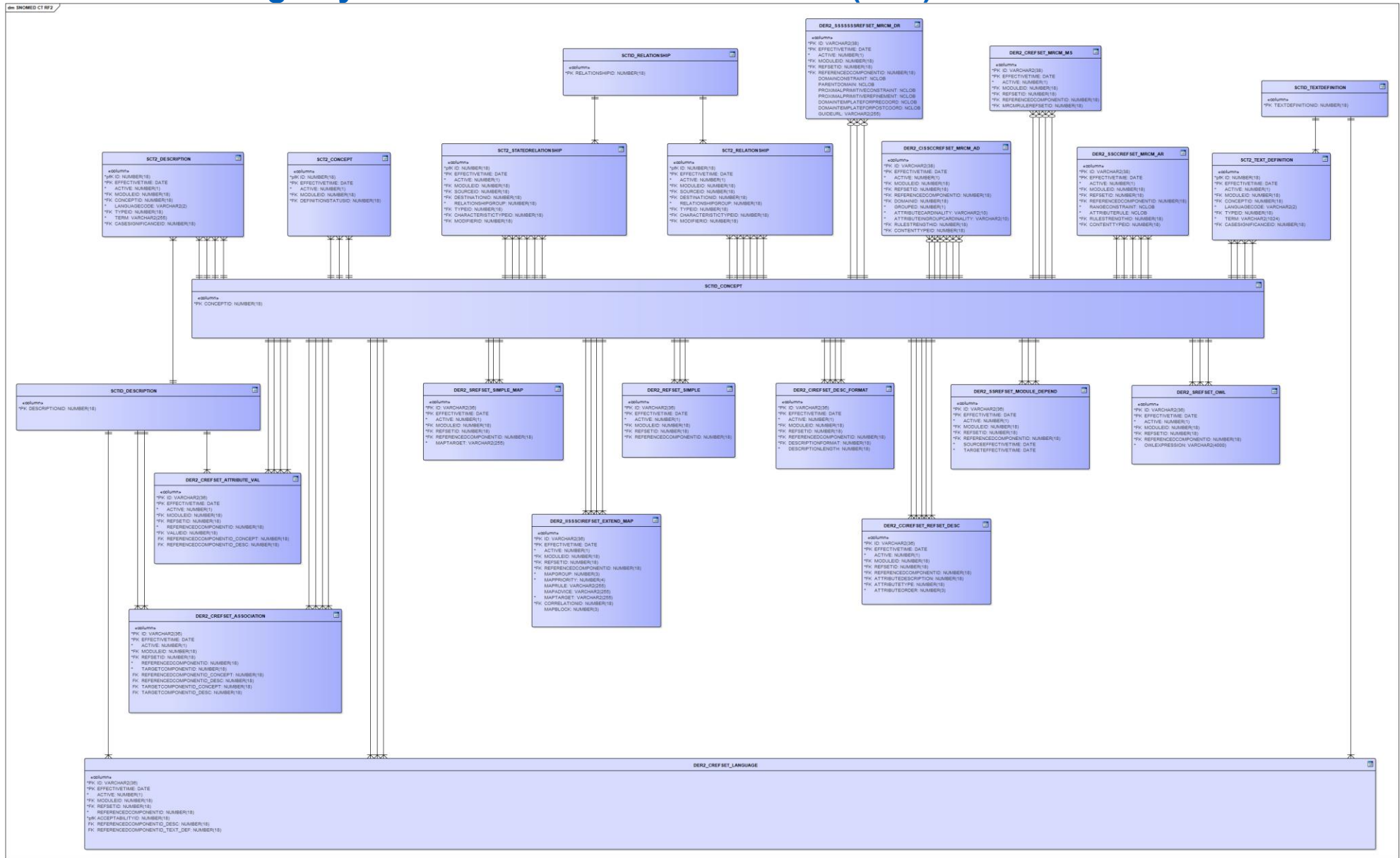
The schema has been created using the International release documentation, mainly section “5 release File Specifications” of the “SNOMED CT Technical Implementation Guide”. SNOMED CT data can also contain multi-byte characters, and therefore a review of the “Unicode UTF-8 encoding” section in the “SNOMED CT Technical Reference Guide” is recommended before loading the release files. Important RF2 baseline information can be

found in the document “doc_UKSnomedCT_Current-en-GB_GB1000000_YYYY-MM-DD.pdf”

The physical data model of the schema used is displayed in the following diagram. The Oracle DDL can be found in Appendix 1.

An extensive list of RF2 validation criteria can be found in Appendix 2.

3.1 Load Testing Physical Model – Release Format 2 (RF2)



4 Release File to Table Mapping

The table below details which files were loaded:

Note: please review section “5.4. SNOMED CT - File Naming Conventions” within the “SNOMED CT Technical Implementation Guide” document to review the file naming convention which also details the <> qualifiers used in this table.

4.1 Release Format 2 (RF2)

Table Name	File Name	Notes
DER2_CCIREFSET_REFSET_DESC	der2_cciRefset_RefsetDescriptorFull_<Country Namespace>_<VersionDate>.txt	
DER2_CIREFSET_DESC_FORMAT	der2_ciRefset_DescriptionTypeFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_CREFSET_ASSOCIATION	der2_cRefset_AssociationFull_<Country Namespace>_<VersionDate>.txt	
DER2_CREFSET_ATTRIBUTE_VAL	der2_cRefset_AttributeValueFull_<Country Namespace>_<VersionDate>.txt	
DER2_CREFSET_LANGUAGE	der2_cRefset_LanguageFull-en_<Country Namespace>_<VersionDate>.txt	
DER2_ISSSCIREFSET_EXTEND_MAP	der2_iissciRefset_ExtendedMapFull_<Country Namespace>_<VersionDate>.txt	UK Clinical Extension data only
DER2_REFSET_SIMPLE	der2_Refset_SimpleFull_<Country Namespace>_<VersionDate>.txt	
DER2_SREFSET_SIMPLE_MAP	der2_sRefset_SimpleMapFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_SSREFSET_MODULE_DEPEND	der2_ssRefset_ModuleDependencyFull_<Country Namespace>_<VersionDate>.txt	
SCT2_CONCEPT	sct2_Concept_Full_<Country Namespace>_<VersionDate>.txt	
SCT2_DESCRIPTION	sct2_Description_Full-en_<Country Namespace>_<VersionDate>.txt	
SCT2_RELATIONSHIP	sct2_Relationship_Full_<Country Namespace>_<VersionDate>.txt	
SCT2_STATEDRELATIONSHIP	sct2_StatedRelationship_Full_<Country Namespace>_<VersionDate>.txt	
SCT2_TEXT_DEFINITION	sct2_TextDefinition_Full-en_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_SSSSSSREFSET_MRCM_DR	der2_ssssssRefset_MRCMDomainFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_SSCCREFSET_MRCM_AR	der2_scccRefset_MRCMAttributeRangeFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_CREFSET_MRCM_MS	der2_cRefset_MRCMModuleScopeFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_CISSCCREFSET_MRCM_AD	der2_cissccRefset_MRCMAttributeDomainFull_<Country Namespace>_<VersionDate>.txt	International content only at present
DER2_SREFSET_OWL	sct2_sRefset_OWLAxiomFull_<Country Namespace>_<VersionDate>.txt sct2_sRefset_OWLOntologyFull_<Country Namespace>_<VersionDate>.txt	International content only at present
SCTID_CONCEPT	Populated from SCT2_CONCEPT	
SCTID_DESCRIPTION	Populated from SCT2_DESCRIPTION	
SCTID_RELATIONSHIP	Populated from SCT2_RELATIONSHIP/SCT2_STATEDRELATIONSHIP	
Not loaded	der2_iisscccRefset_ExtendedMapFull_INT_<VersionDate>.txt	International content only at present
Not loaded	sct2_Identifier_Full_INT_<VersionDate>.txt	Empty International release file

5 Appendix 1

5.1 SNOMED CT RF2 SQL Code Snippets

Previous versions of this Technical Overview documentation have included an Oracle DDL. This is no longer maintained by us; SNOMED International's own document library offers much implementation support and code snippets, including their SNOMED CT - SQL Practical Guide - SQL Practical Guide (ihtsdotools.org)

6 Appendix 2

6.1 RF2 Validation Criteria

6.2 Rules Common to Delta, Snapshot and Full Releases

6.2.1 Concepts Table

id field should be between 100000 and 999999999999999999

Partition digits of id field should reflect component source and identifier type

Check digit in id field should be correct according to Verhoeff function

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effectivetime and moduleid should be unique

No field should be null

Definition status id should exist in snapshot concept table

Definition status id should be a subtype of the appropriate metadata concept

6.2.2 Descriptions Table

id field should be between 100000 and 999999999999999999

Partition digits of id field should reflect component source and identifier type

Check digit in id field should be correct according to Verhoeff function

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effectivetime and moduleid should be unique

No field should be null

Concept id should exist in snapshot concept table

Language code must be a recognised type

Type id should exist in snapshot concept table

Type id should be a subtype of the appropriate metadata concept

Terms should not contain tabs

Terms should not contain linefeeds

Terms should not contain carriage returns

Case significance id should exist in snapshot concept table

Case significance id should be a subtype of the appropriate metadata concept

6.2.3 Relationships Table

id field should be between 100000 and 999999999999999999

Partition digits of id field should reflect component source and identifier type

Check digit in id field should be correct according to Verhoeff function

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effectivetime and moduleid should be unique

No field should be null

Source id should exist in snapshot concept table

Destination id should exist in snapshot concept table
Relationship group should be a non-negative integer
Characteristic type id should be a subtype of the appropriate metadata concept
Modifier id should be a subtype of the appropriate metadata concept
Relationships may not be reflexive
Grouped relationships should be defining but not hierarchical
Extension relationships may not define international concepts

6.2.4 Stated Relationships Table

id field should be between 100000 and 999999999999999999
Partition digits of id field should reflect component source and identifier type
Check digit in id field should be correct according to Verhoeff function
Effective time should be between earliest release and present date
Active field should be 0 or 1
Module id should be present in snapshot concept table
Module id should be a subtype of the appropriate metadata concept
id, effectivetime and module id should be unique
No field should be null
Source id should exist in snapshot concept table
Destination id should exist in snapshot concept table
Relationship group should be a non-negative integer
Characteristic type id should be a subtype of the appropriate metadata concept
Modifier id should be a subtype of the appropriate metadata concept
Relationships may not be reflexive
Grouped relationships should be defining but not hierarchical
Extension relationships may not define international concepts

6.2.5 Text Definition Table

id field should be between 100000 and 999999999999999999
Partition digits of id field should reflect component source and identifier type
Check digit in id field should be correct according to Verhoeff function
Effective time should be between earliest release and present date
Active field should be 0 or 1
Module id should be present in snapshot concept table
Module id should be a subtype of the appropriate metadata concept
id, effectivetime and moduleid should be unique
No field should be null
Parameterised QA for common fields
Concept id should exist in snapshot concept table
Language code must be a recognised type
Type id should exist in snapshot concept table
Type id should be a subtype of the appropriate metadata concept
Terms should not contain tabs
Terms should not contain linefeeds
Terms should not contain carriage returns
Case significance id should exist in snapshot concept table
Case significance id should be a subtype of the appropriate metadata concept

6.2.6 Simple Refset Table

Effective time should be between earliest release and present date
Active field should be 0 or 1
Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept
id, effective time and module id should be unique
Following fields may not be null: id, effective time, active, module id, refset id and component id
id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
Refset id should be present in snapshot concept table
Refset id should be a subtype of the appropriate metadata concept
Referenced concept ids should be present in snapshot concept table
Referenced description ids should be present in snapshot description table
Referenced components should be valid concept or description ids
Refsets must have a refset descriptor in the snapshot release

6.2.7 Ordered Refset Table

Effective time should be between earliest release and present date
Active field should be 0 or 1
Module id should be present in snapshot concept table
Module id should be a subtype of the appropriate metadata concept
id, effective time and module id should be unique
Following fields may not be null: id, effective time, active, module id, refset id and component id
id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
Refset id should be present in snapshot concept table
Refset id should be a subtype of the appropriate metadata concept
Referenced concept ids should be present in snapshot concept table
Referenced description ids should be present in snapshot description table
Referenced components should be valid concept or description ids
Refsets must have a refset descriptor in the snapshot release
Refset id should be a subtype of the appropriate metadata concept
Order field should be a positive integer
Linkedto field should be zero, or an id in the snapshot concept table

6.2.8 Simple Map Refset Table

Effective time should be between earliest release and present date
Active field should be 0 or 1
Module id should be present in snapshot concept table
Module id should be a subtype of the appropriate metadata concept
id, effective time and module id should be unique
Following fields may not be null: id, effective time, active, module id, refset id and component id
id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
parameterised QA for common fields
Refset id should be present in snapshot concept table
Refset id should be a subtype of the appropriate metadata concept
Referenced concept ids should be present in snapshot concept table
Referenced description ids should be present in snapshot description table
Referenced components should be valid concept or description ids
Refsets must have a refset descriptor in the snapshot release
Refset id should be a subtype of the appropriate metadata concept
Map targets may not be null

6.2.9 Language Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields

Refset id should be present in snapshot concept table

Refset id should be a subtype of the appropriate metadata concept

Referenced concept ids should be present in snapshot concept table

Referenced description ids should be present in snapshot description table

Referenced components should be valid concept or description ids

Refsets must have a refset descriptor in the snapshot release

Acceptability id should be a subtype of the appropriate metadata concept

Refset id should be a subtype of the appropriate metadata concept

6.2.10 Attribute-Value Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields

Refset id should be present in snapshot concept table

Refset id should be a subtype of the appropriate metadata concept

Referenced concept ids should be present in snapshot concept table

Referenced description ids should be present in snapshot description table

Referenced components should be valid concept or description ids

Refsets must have a refset descriptor in the snapshot release

Value id should be a subtype of the appropriate metadata concept

Refset id should be a subtype of the appropriate metadata concept

6.2.11 Association Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields

Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Target component id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept

6.2.12 Query Specification Refset Table

Effective time should be between earliest release and present date
 Active field should be 0 or 1
 Module id should be present in snapshot concept table
 Module id should be a subtype of the appropriate metadata concept
 id, effective time and module id should be unique
 Following fields may not be null: id, effective time, active, module id, refset id and component id
 id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
 parameterised QA for common fields
 Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Query should not be null
 Refset id should be a subtype of the appropriate metadata concept
 Component id should appear in the refset hierarchy

6.2.13 Annotation Refset Table

Effective time should be between earliest release and present date
 Active field should be 0 or 1
 Module id should be present in snapshot concept table
 Module id should be a subtype of the appropriate metadata concept
 id, effective time and module id should be unique
 Following fields may not be null: id, effective time, active, module id, refset id and component id
 id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
 parameterised QA for common fields
 Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Annotation should not be null
 Refset id should be a subtype of the appropriate metadata concept

6.2.14 Complex Map Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields

Refset id should be present in snapshot concept table

Refset id should be a subtype of the appropriate metadata concept

Referenced concept ids should be present in snapshot concept table

Referenced description ids should be present in snapshot description table

Referenced components should be valid concept or description ids

Refsets must have a refset descriptor in the snapshot release

Map group, priority and target fields may not be null

Refset id should be a subtype of the appropriate metadata concept

Correlation id should be a subtype of the appropriate metadata concept

6.2.15 Crossmap Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields

Refset id should be present in snapshot concept table

Refset id should be a subtype of the appropriate metadata concept

Referenced concept ids should be present in snapshot concept table

Referenced description ids should be present in snapshot description table

Referenced components should be valid concept or description ids

Refsets must have a refset descriptor in the snapshot release

Map block, group, priority and target fields may not be null

Refset id should be a subtype of the appropriate metadata concept

Correlation id should be a subtype of the appropriate metadata concept

6.2.16 Module Dependency Refset Table

Effective time should be between earliest release and present date

Active field should be 0 or 1

Module id should be present in snapshot concept table

Module id should be a subtype of the appropriate metadata concept

id, effective time and module id should be unique

Following fields may not be null: id, effective time, active, module id, refset id and component id

id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000

parameterised QA for common fields
 Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Refset id should be as expected
 Source effective time should be between earliest release and present date
 Target effective time should be between earliest release and present date

6.2.17 Descriptor Refset Table

Effective time should be between earliest release and present date
 Active field should be 0 or 1
 Module id should be present in snapshot concept table
 Module id should be a subtype of the appropriate metadata concept
 id, effective time and module id should be unique
 Following fields may not be null: id, effective time, active, module id, refset id and component id
 id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
 parameterised QA for common fields
 Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Refset id should be as expected
 Referenced id should be a subtype of the appropriate metadata concept
 Attribute description should be a subtype of the appropriate metadata concept
 Attribute type should be a subtype of the appropriate metadata concept

6.2.18 Description Format Refset Table

Effective time should be between earliest release and present date
 Active field should be 0 or 1
 Module id should be present in snapshot concept table
 Module id should be a subtype of the appropriate metadata concept
 id, effective time and module id should be unique
 Following fields may not be null: id, effective time, active, module id, refset id and component id
 id fields should be hexadecimal numbers in the format 00000000-0000-0000-0000-000000000000
 parameterised QA for common fields
 Refset id should be present in snapshot concept table
 Refset id should be a subtype of the appropriate metadata concept
 Referenced concept ids should be present in snapshot concept table
 Referenced description ids should be present in snapshot description table
 Referenced components should be valid concept or description ids
 Refsets must have a refset descriptor in the snapshot release
 Refset id should be as expected
 Referenced id should be a subtype of the appropriate metadata concept

Description format id should be a subtype of the appropriate metadata concept
Description length should be a non-negative integer

6.2.19 OWL Axiom Refset Table

Refset id should be as expected

Referenced id should be a subtype of the appropriate metadata concept

6.2.20 OWL Ontology Refset Table

Refset id should be as expected

Referenced id should be a subtype of the appropriate metadata concept

6.3 Rules Common to Delta and Snapshot Releases

6.3.1 Concepts Table

id field should be unique

An identical record must be present in the full release

6.3.2 Descriptions Table

id field should be unique

FSNs of active concepts should terminate with a semantic tag

An identical record must be present in the full release

6.3.3 Relationships Table

id field should be unique

Relationship triple should be unique within a group

Type id should exist in snapshot concept table

An identical record must be present in the full release

6.3.4 Stated Relationships Table

id field should be unique

Relationship triple should be unique within a group

Type id should exist in snapshot concept table

An identical record must be present in the full release

6.3.5 Text Definition Table

id field should be unique

FSNs of active concepts should terminate with a semantic tag

An identical record must be present in the full release

6.3.6 Simple Refset Table

id field should be unique

An identical record must be present in the full release

6.3.7 Ordered Refset Table

id field should be unique

Referenced component id should be unique within a refset

An identical record must be present in the full release

6.3.8 Simple Map Refset Table

id field should be unique

Referenced component and map target should be unique within a refset

An identical record must be present in the full release

6.3.9 Language Refset Table

id field should be unique

Referenced component id should be unique within a refset

An identical record must be present in the full release

6.3.10 Attribute-Value Refset Table

id field should be unique

Attribute-value pairs should be unique within a refset

An identical record must be present in the full release

6.3.11 Association Refset Table

id field should be unique

Associations should be unique within a refset

An identical record must be present in the full release

6.3.12 Query Specification Refset Table

id field should be unique

Queries should be unique within a refset

An identical record must be present in the full release

6.3.13 Annotation Refset Table

id field should be unique

Annotations should be unique within a refset

An identical record must be present in the full release

6.3.14 Complex Map Refset Table

id field should be unique

Referenced component, map group and map priority should be unique within a refset

An identical record must be present in the full release

6.3.15 Crossmap Refset Table

id field should be unique

Referenced component, map block, map group and map priority should be unique within a refset

An identical record must be present in the full release

6.3.16 Module Dependency Refset Table

id field should be unique

Module id and referenced component id should be unique

An identical record must be present in the full release

6.3.17 Descriptor Refset Table

id field should be unique

Attribute order should be unique for each referenced component

Attribute description should be unique for each referenced component
An identical record must be present in the full release

6.3.18 Description Format Refset Table

id field should be unique
Referenced component should be unique within refset
An identical record must be present in the full release

6.3.19 OWL Axiom Refset Table

id should be unique
Referenced component should be unique within refset
An identical record must be present in the full release

6.3.20 OWL Ontology Refset Table

id should be unique
Referenced component should be unique within refset
An identical record must be present in the full release

6.4 Rules Specific to Delta Release

6.4.1 Concepts Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.2 Descriptions Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.3 Relationships Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.4 Stated Relationships Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.5 Text Definition Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.6 Simple Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.7 Ordered Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.8 Simple Map Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.9 Language Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.10 Attribute-Value Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.11 Association Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.12 Query Specification Refset Table

Effective time should be the date of the latest release

An identical record must be present in the snapshot release

6.4.13 Annotation Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.14 Complex Map Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.15 Crossmap Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.16 Module Dependency Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.17 Descriptor Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.18 Description Format Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.19 OWL Axiom Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.4.20 OWL Ontology Refset Table

Effective time should be the date of the latest release
An identical record must be present in the snapshot release

6.5 Rules Specific to Snapshot Release

6.5.1 Concepts Table

Each concept requires an active FSN

Each concept requires an active synonym

Each active concept except the root requires a supertype

There should be no more recent records in the full release with the same id field

All non-metadata IDs should be present in RF1

Active flag should reflect RF1 status

6.5.2 Descriptions Table

Concept id must exist in snapshot concept table

A concept can only have one FSN in a particular language

Active FSNs must be unique for a given language

A concept's synonyms should be unique within a given language

There should be no more recent records in the full release with the same id field

All non-metadata IDs should be present in RF1

All non-metadata terms should be present in RF1

6.5.3 Relationships Table

Source concept must exist in snapshot concept table

Destination concept must exist in snapshot concept table

Type id must exist in snapshot concept table

Active relationships may not have an inactive source concept

Active relationships may not have an inactive destination concept

Active relationships may not have an inactive type id

Root concept should exist as a supertype (only) in the hierarchy

Relationship groups should contain more than one relationship

Ungrouped relationships may not also occur within a group

There should be no more recent records in the full release with the same id field

All UK non-metadata relationships should be present in RF1 with the same id

All International non-metadata relationships should be present in RF1

All defining and additional relationships in RF1 should be present in RF2

6.5.4 Stated Relationships Table

Root concept should exist as a supertype (only) in the hierarchy

Relationship groups should contain more than one relationship

Ungrouped relationships may not also occur within a group

There should be no more recent records in the full release with the same id field

All non-metadata relationships should be present in RF1

6.5.5 Text Definition Table

Concept id must exist in snapshot concept table

There should be no more recent records in the full release with the same id field

6.5.6 Simple Refset Table

There should be no more recent records in the full release with the same id field

All active refset members should be in the corresponding RF1 subset

All members of RF1 subsets should be active in corresponding refset

6.5.7 Ordered Map Refset Table

There should be no more recent records in the full release with the same id field
All active refset members should be in the corresponding RF1 subset
All members of RF1 subsets should be active in corresponding refset

6.5.8 Simple Map Refset Table

There should be no more recent records in the full release with the same id field

6.5.9 Language Refset Table

There should be no more recent records in the full release with the same id field
All active refset members should be in the corresponding RF1 subset
All members of RF1 subsets should be active in corresponding refset

6.5.10 Attribute-Value Refset Table

There should be no more recent records in the full release with the same id field
Statuses of retired RF1 concepts should be mapped accurately
Statuses of retired RF1 descriptions should be mapped accurately
Retired RF1 concepts should have an entry in an inactivation refset
Retired RF1 descriptions should have an entry in an inactivation refset

6.5.11 Association Refset Table

There should be no more recent records in the full release with the same id field
Members of historical association refsets should map to historical relationships in RF1
All historical relationships in RF1 must be reflected in the RF2 historical association refsets

6.5.12 Query Specification Refset Table

There should be no more recent records in the full release with the same id field

6.5.13 Annotation Refset Table

There should be no more recent records in the full release with the same id field

6.5.14 Complex Map Refset Table

There should be no more recent records in the full release with the same id field
All maps must have a group numbered 1
Map priority values should be sequential within a group

6.5.15 Crossmap Refset Table

There should be no more recent records in the full release with the same id field
All map blocks must have a group numbered 1
All maps must have a block numbered 1
Map priority values should be sequential within a group

6.5.16 Module Dependency Refset Table

There should be no more recent records in the full release with the same id field

6.5.17 Descriptor Refset Table

There should be no more recent records in the full release with the same id field
Attribute order values should be sequential

6.5.18 Description Format Refset Table

There should be no more recent records in the full release with the same id field

6.5.19 OWL Axiom Refset Table

There should be no more recent records in the full release with the same id field

6.5.20 OWL Ontology Refset Table

There should be no more recent records in the full release with the same id field

6.6 Rules Specific to Full Release

6.6.1 Concepts Table

id and effective time should be unique

Record should not predate its referenced module id

Record should not predate its referenced definition status

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release

All previous records must be present in the full release

6.6.2 Descriptions Table

id and effective time should be unique

Fields specified as immutable may not be changed

Record should not predate its referenced module id

Record should not predate its referenced concept id

Record should not predate its referenced type id

Record should not predate its referenced case significance id

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release

All previous records must be present in the full release

6.6.3 Relationships Table

id and effective time should be unique

Relationship triples should be unique within a group at any given time

Fields specified as immutable may not be changed

Record should not predate its referenced module id

Record should not predate its referenced source id

Record should not predate its referenced destination id

Record should not predate its referenced typeid id

Record should not predate its referenced characteristic type id

Record should not predate its referenced modifier id

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release

All previous records must be present in the full release

6.6.4 Stated Relationships Table

id and effective time should be unique

Relationship triples should be unique within a group at any given time

Fields specified as immutable may not be changed

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release

All previous records must be present in the full release

6.6.5 Text Definition Table

id and effective time should be unique

Fields specified as immutable may not be changed

Record should not predate its referenced module id

Record should not predate its referenced concept id

Record should not predate its referenced type id

Record should not predate its referenced case significance id

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.6 Simple Refset Table

id and effective time should be unique
Refset id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.7 Ordered Refset Table

id and effective time should be unique
Refset id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.8 Simple Map Refset Table

id and effective time should be unique
Refset id, effective time, referenced id and map target should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.9 Language Refset Table

id and effective time should be unique
Refset id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced acceptability id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.10 Attribute-Value Refset Table

id and effective time should be unique
Refset id, value id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced value id

Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.11 Association Refset Table

id and effective time should be unique
Refset id, target id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced target id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.12 Query Specification Refset Table

id and effective time should be unique
Refset id, target id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.13 Annotation Refset Table

id and effective time should be unique
Refset id, target id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.14 Complex Map Refset Table

id and effective time should be unique
Refset id, referenced id, map group, map priority and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced correlation id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.15 Crossmap Refset Table

id and effective time should be unique
Refset id, referenced id, map block, map group, map priority and effective time should be unique
Record should not predate its referenced module id

Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced correlation id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.16 Module Dependency Refset Table

id and effective time should be unique
Module id, referenced id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.17 Descriptor Refset Table

id and effective time should be unique
Referenced component id, attribute order and effective time should be unique
Referenced component id, attribute description and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced attribute description id
Record should not predate its referenced attribute type id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.18 Description Format Refset Table

id and effective time should be unique
Referenced component id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Record should not predate its referenced description format id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.19 OWL Axiom Refset Table

id and effective time should be unique
Referenced component id and effective time should be unique
Record should not predate its referenced module id
Record should not predate its referenced refset id
Record should not predate its referenced component id
Records with the latest release date should be present in the delta release
The latest record with a given id should be present in the snapshot release
All previous records must be present in the full release

6.6.20 OWL Ontology Refset Table

id and effective time should be unique

Referenced component id and effective time should be unique

Record should not predate its referenced module id

Record should not predate its referenced refset id

Record should not predate its referenced component id

Records with the latest release date should be present in the delta release

The latest record with a given id should be present in the snapshot release

All previous records must be present in the full release

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