

Euro-VO Registry Weather Report

Philip Matsson (Winter Way for ESA)

Christophe Arviset (ESA), Henrik Norman (Winter Way for ESA),
Sara Nieto (RHEA for ESA), Rach Bhatwdekar (ESA)

IVOA interoperability meeting, Ops Session, 12/11/2023

Euro-VO Registry New Releases



- <https://registry.euro-vo.org>
- Philip Matsson (philip@winterway.eu) is taking care of the Euro-VO registry while Henrik Norman (henrik@winterway.eu) is on paternity leave (back January 2024)
- Reach the team at: esavo.registry@sciops.esa.int

- **Version 4.0 highlights**

- Bug fixes and improvements

- **Version 4.5 Nov 2023 highlights**

- [IVOA Registry Relational Schema v. 1.2](#) (RegTAP) implementation
- HiPS capability search
- Bug fixes and improvements

The screenshot shows the Euro-VO Registry search results page. The table has the following columns: Short Name, Publisher, Title, Capabilities, Compliance, IVOID, Resource Type, and Description. The results are sorted by relevance.

Short Name	Publisher	Title	Capabilities	Compliance	IVOID	Resource Type	Description
2MASS Photometric Redshift catalogue (2MP2)	WFAU, Institute for Astronomy, University of Edinburgh	2MASS Photometric Redshift catalogue (2MP2)	not applicable, undefined, undefined, SCS, Availability, TAP1.0, Capabilities, undefined	Compliant(A++), not applicable, not applicable, not applicable, Partially Compliant(C-), not applicable	ivo://wfas.roe.ac.uk/2mp2	vs:catalogservice	The 2MASS Photometric Redshift catalogue (2MP2) is constructed by cross-matching 2MASS, SDSS, WISE and SuperCOSMOS all-sky lamp (more)
ALMA TAP EA	Joint ALMA Observatory (JAO)	Official ALMA Table Access (EA server at NAOJ)	TAP1.1	Compliant(A++)	ivo://jao.alma/tap_ea	vs:catalogservice	The official ALMA TAP service. It provides an extended ObsCore 1.1 view of all ALMA observations.
SuperCOSMOS	WFAU, Institute for Astronomy, University of Edinburgh	SuperCOSMOS Science Archive (SSA)	Availability, SCS, undefined, undefined, TAP1.0, SCS, Capabilities	not applicable, not applicable, not applicable, not applicable, Partially Compliant(C-), Compliant(A++)	ivo://wfas.roe.ac.uk/ssa	vs:catalogservice	The SuperCOSMOS data held in the SSA primarily originate from scans of Palomar and UK Schmidt blue, red and near-IR southern (more)
SUBARU_SUP	JVO	Subaru Suprime-Cam data service	SI1A.0, TAP1.0, SI1A.0, SI1A.0	Partially Compliant(C-), Compliant(A++)	ivo://vo/subaru/sgcam	vs:catalogservice	The Subaru Prime Focus Camera (Suprime-Cam) is a mosaic of ten 2048x4096 CCDs, located at the prime focus of Subaru Telescope (more)
ALMA	JVO	ALMA VO Service	SI1A.0, TAP1.0, Capabilities, Availability	Partially Compliant(C-), not applicable, not applicable	ivo://vo/alma	vs:catalogservice	ALMA VO Service
CSCRL	Chandra X-ray Observatory	Chandra Source Catalog Release 1	Tables, TAP1.0, Capabilities, SCS, Availability	Partially Compliant(C-), not applicable, Compliant(A++)	ivo://cxc.harvard.edu/cscr1	vs:catalogservice	The Chandra X-ray Observatory is the U.S. follow-on to the Einstein Observatory and one of NASA's Great Observatories. Chand (more)
IAP TAP	iap.cz	IAP - DaCHS Services TAP service	Capabilities, TAP1.1, Tables, Availability	not applicable, Compliant(A++), not applicable, not applicable	ivo://iap/tap	vs:catalogservice	The IAP - DaCHS Services's TAP endpoint. The Table Access Protocol (TAP) lets you execute queries against our database table (more)
MINI-PAS PDR201912	Centro de Estudios de Física del Cosmos de Aragón (CECA)	MINI-PAS PDR201912 Catalogue (December, 2019)	SCS, SCS, SI1A.0, Capabilities, SCS, Tables, Capabilities, SCS, TAP1.1, undefined, HiPS, HPS, Availability, SCS, Availability, SI1A.0	Compliant(A++), Compliant(A++), not applicable, not applicable, Compliant(A++), Compliant(B), not applicable, not applicable, Compliant(A++), not applicable, Compliant(A++)	ivo://cefa/minipas/minipdr201912	vs:catalogservice	MINI-PAS PDR201912 Catalogue (December, 2019) is based on scientific images in 60 filters covering a total area of ~1 square (more)
ATLAS DR1 - VST ATLAS Survey	WFAU, Institute for Astronomy, University of Edinburgh	ATLAS DR1 - VST ATLAS Survey	undefined, undefined, TAP1.0, undefined, SCS, Availability	not applicable, not applicable, Partially Compliant(C-), Compliant(A++), not applicable, not applicable, Compliant(A++), not applicable, not applicable	ivo://wfas.roe.ac.uk/atlasdr1	vs:catalogservice	This DSA hosts data release 1 of the ATLAS Survey housed at the Wide Field and of Survey Imager at the University of Edinburgh. Th (more)



Euro-VO Registry own validators for protocols:

- Simple Cone Search (SCS) v1.03
- Simple Image Search (SIA) v1.0 & v2.0
- Simple Spectral Access (SSA) v1.1

Euro-VO Registry external validators:

- Table Access Protocol (TAP) v1.0 & v1.1 using Taplint (STILTS)
- Multi-Order Coverage map (MOC) v1.0, v1.1 & 2.0 using CDS's MOC validator

•Compliant (no requirement fails)

- A++ no criterion fails
- A+ no requirement, warning or recommendation fails
- A no requirement or warning fails, but at least one recommendation fails
- B no requirement fails, but at least one warning fails

•partially compliant (some (but not all) requirements fail)

- C at least one (1) req fails, but at least one (1) req equally succeeds
- C- at least two (2) reqs fail, but at least one (1) req equally succeeds
- C-- at least three (3) reqs fail, but at least one (1) req equally succeeds

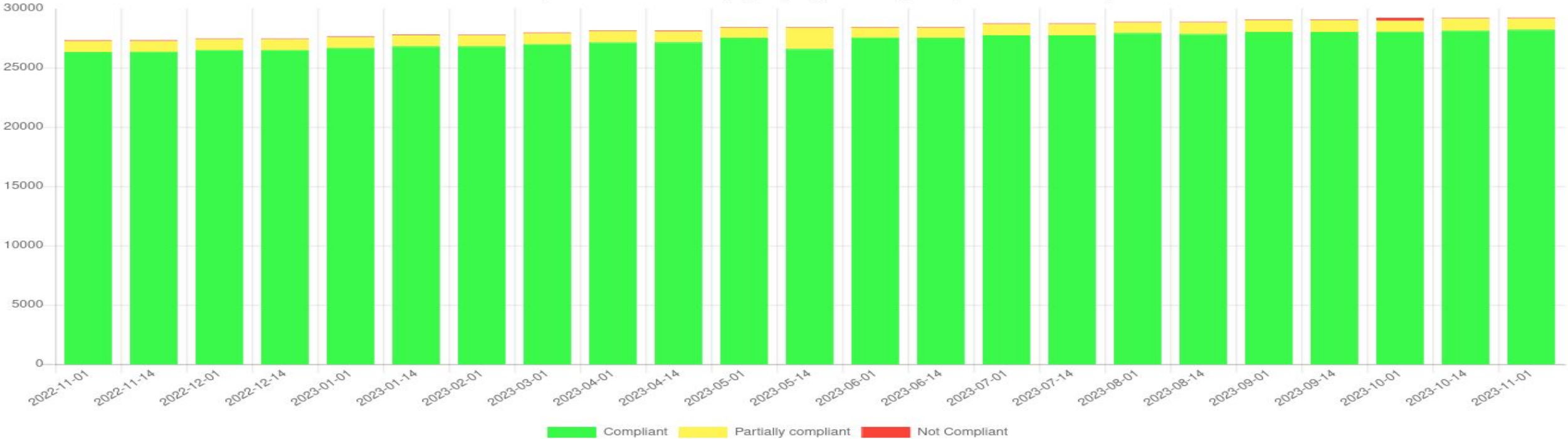
•not compliant (all requirements fail)

- D all reqs fail but some other criterion (of lesser importance) succeeds
- E no criterion succeeds

Criterion Type	
name	description
REQUIREMENT	Tests drawn from 'MUST' statements in the respective standard
WARNING	Tests drawn from strongly encouraged 'SHOULD' statements in the respective standard
RECOMMENDATION	Tests drawn from 'SHOULD' statements in the respective standard
EXTRA	Criteria not defined in the IVOA 'Service Validation' wiki

Simple Cone Search (SCS)

Service Compliance Stacked Bar Chart (Registry: any , Service Type: Simple Cone Search v1.03)



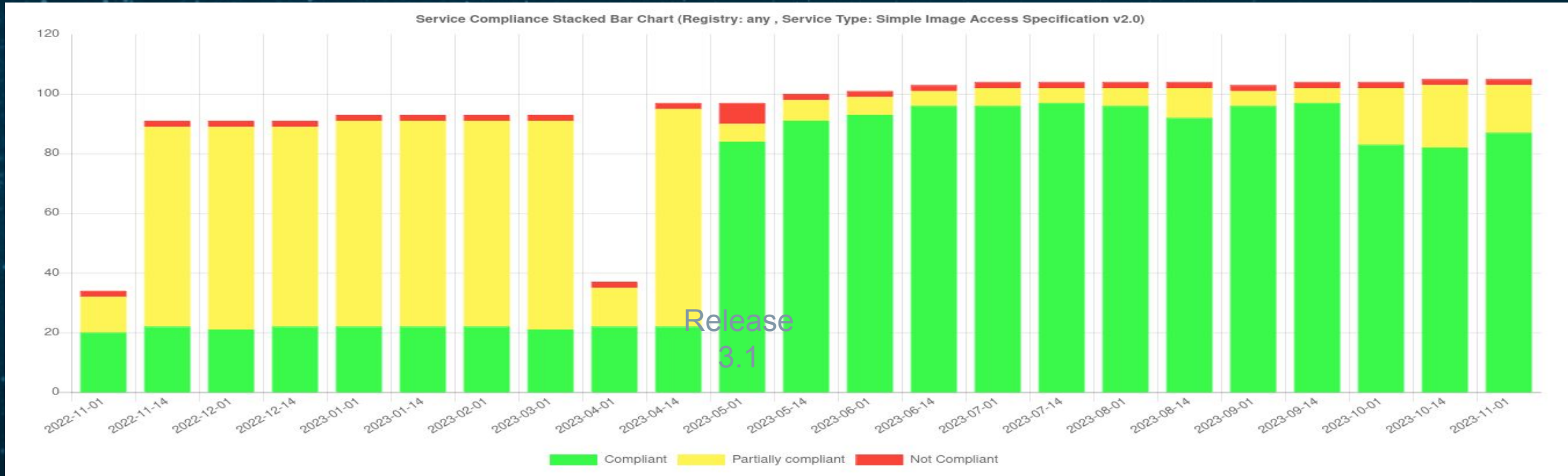
- Good compliance overall
- Incorrect UCDs are the most common issue
 - No ID_MAIN column OR more than one
 - Missing POS_EQ_RA_MAIN and POS_EQ_DEC_MAIN

SIAP – Simple Image Access Protocol v1.0



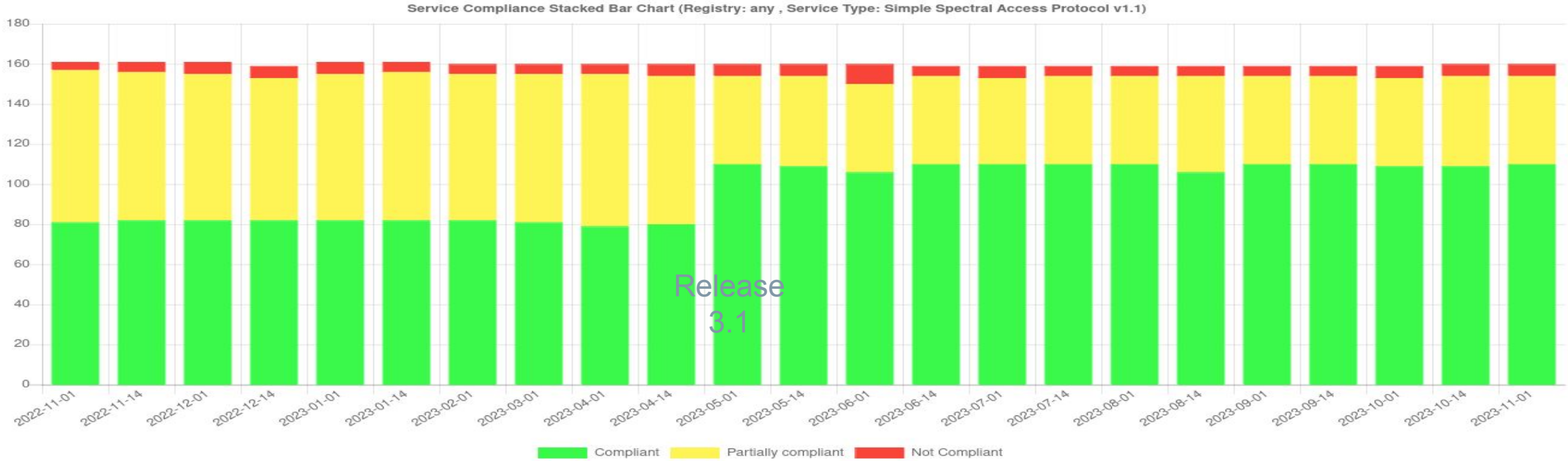
- Missing UCDs is the most common issue
 - VOX:Image_Naxes, VOX:Image_Scale, VOX:Image_Title
 - ~50 % of services receive warnings for minor UCD violations

SIAP – Simple Image Access Protocol v2.0



- Good compliance
 - Euro-VO Registry SIAP 2.0 validator fix increases the compliancy
 - All accessible services are compliant or partially compliant.

SSA – Simple Spectra Access Protocol v1.1

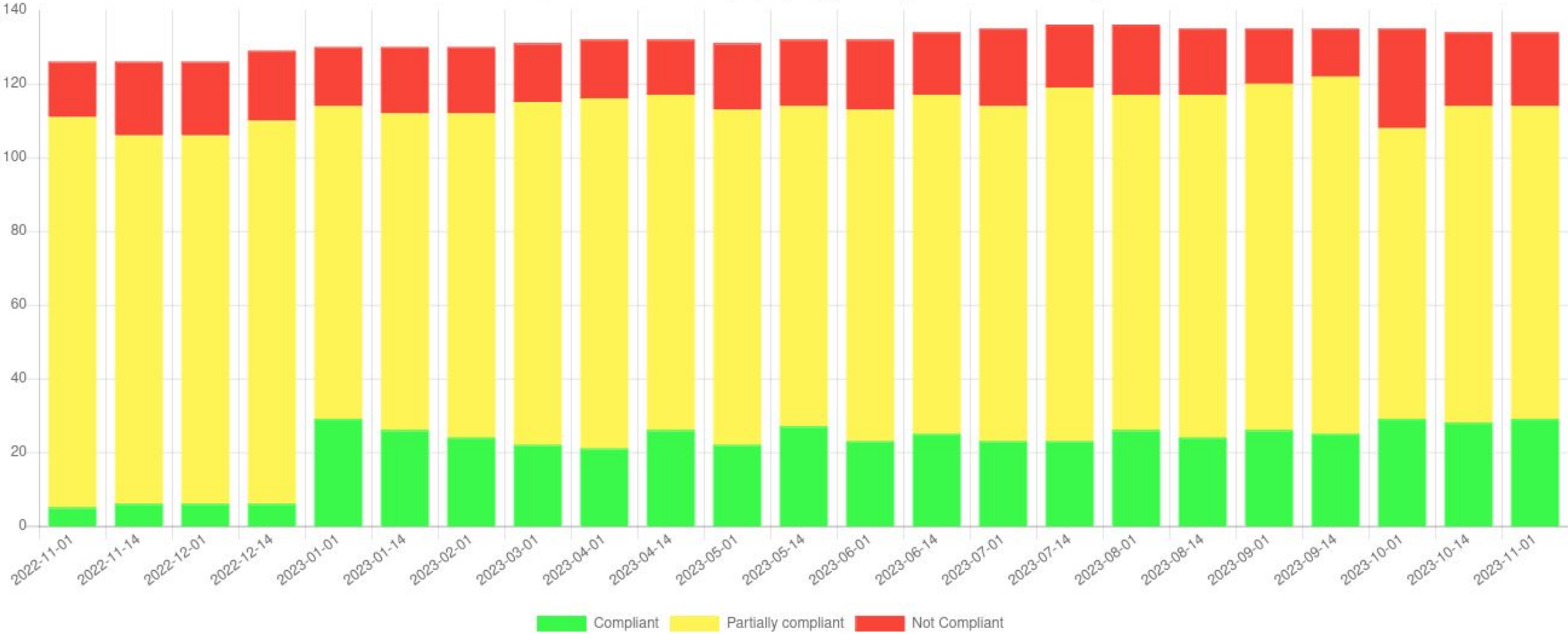


- Many services get the partially compliant rating because the validator cannot find any data to validate. Service providers could help by providing testQuery information as described in the [SimpleDALRegExt standard](#)
- Missing entries or utypes for
 - Char.TimeAxis.Coverage.Location.Value, Char.SpectralAxis.Coverage.Bounds.Extent, Char.SpatialAxis.Coverage.Bounds.Extent

TAP - Table Access Protocol



Service Compliance Stacked Bar Chart (Registry: any , Service Type: Table Access Protocol)



- Most services fail on only one requirement – But not the same requirement
- Most of the issues should be reasonably easy to fix for TAP service providers

- The most common issues:
 - Errors reading the tap schema tables (key_columns, keys, columns, tables, schemas)
 - Table column name is ADQL reserved word - Mostly 'size', 'date', 'value', 'area', 'position', 'level'
 - Bad content-type for VOTable

- Good overall service compliance
- Euro-VO Registry SIAP 2.0 validator fixes in May 2023 increased the compliance level
- TAP service compliance requires fixes from TAP services providers