

# Operations Feedback for DAL Standards

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# Summary

## Operational activities provide feedback on issues with DAL standards

- Validator implementation and resolving validation issues tests details of standards text
- These items come mostly from looking at [ESA-VO weather report](#) at last interop

## Known standards issues:

- Trailing “?” for accessURL (SSA, other standards?)
  - ▷ Standard unclear/contradictory, standard recommendations differ
- Questionable MIME types
  - ▷ Standards require/recommend illegal usages
- Use of UCD1s (SCS)
  - ▷ Standard requires outdated usage
- SSA 200 error response
  - ▷ Standard suggests/requires surprising usage

## Some may be “validator-only” errors?

- Services want to do something sensible
- Clients would respond sensibly to such behaviour
- ... but standards text → validator says no.

# Trailing “?” in accessURL

Is it responsibility of service registration or client to append “?” / “&” before parameters?

Example:    accessURL is:       “http://example.com/ssap”  
          validator requests: “http://example.com/ssapPOS=0.0,0.0&...”  
          should have been: “http://example.com/ssap?POS=0.0,0.0&...”

— ESA validator was reporting service Errors in these cases

## Standards:

- SSA 1.1 (sec 8.3.3) mentions a “mandatory question mark” in “Online Resource URL”; but examples in sec 3.2, 8.3.3, 8.10 suggest no question mark
- SIA 1.0 and SCS 1.03, 1.1 require the trailing “?”
- SIA 2.0 doesn’t mention it, but examples don’t include trailing “?”

## Considerations:

- It’s always required for HTTP GET with parameters. It doesn’t make much sense for HTTP POST.
- It’s always sensible/safe for clients to examine the URL and append “?” / “&” if required

## Compliance:

- When I looked, I found 4 SSA services without trailing “?”
- Following contact, 3 changed their registration → OK

## Actions:

- SSA Erratum to clarify matters?
- Recommend defensive client behaviour? (DALI?)

# Questionable MIME Types

ESA validation reports many MIME type-related service errors

- `.zero.mime-legal`, `.effc.mime-legal`, `.metd.mime-legal` (mostly SCS and SSA, some SIA)

Relevant requirements in DAL standards:

- SCS 1.03, Sec 3: `text/xml` recommended (*“should”*); `text/xml;content=x-votable` permitted; `text/xml;votable` discouraged.
- SCS WD-1.1, Sec 3: defer to DALI
- SIA 1.0, sec 4.2: `text/xml;content=x-votable` required
- SIA 2.0, sec 3.1: no explicit requirement
- SSA 1.04, SSA 1.1: `text/xml` recommended (*“should”*); `text/xml;content=x-votable` permitted

VOTable:

- VOTable 1.2, sec 7.3: `application/x-votable+xml` recommended, `text/xml` permitted
- VOTable 1.3, 1.4, sec 8: `serialization` parameter added for `application/x-votable+xml`

Questions:

- Where does `text/xml;content=x-votable` come from?
- Is it a legal MIME type? I don't think so (RFC 7303) though it probably won't break things (RFC 2046)

Actions:

- Change ESA validator reporting? (ERROR → WARNING)
- Erratum for SIA 1.0? (avoid requiring illegal MIME type)
- Relax validation constraints to allow `application/x-votable+xml`?

## Use of UCD1s

### SCS 1.0, 1.1(WD) require use of UCD1s

- SCS 1.0, Section 2, item 2: MUST have UCDs `ID_MAIN`, `POS_EQ_RA_MAIN`, `POS_EQ_DEC_MAIN`
- These are archaic; UCD1+s are preferable: `meta.id;meta.main`, `pos.eq.ra;meta.main`, `pos.eq.dec;meta.main`
- Common validation failure for SCS (see ESA-VO results)

This is a long-running item

### Actions:

- This will be addressed in SCS 2.0
- Can we change/relax the requirement in SCS 1.1?
  - ▷ probably not, backward compatibility

# SSA Error Response Codes

## How to report error status in SSA?

- SSA sec 8.10.3 seems to suggest a 200 OK response with VOTable error document
- DALI 1.1 sec 4.2 says to use an HTTP error code (e.g. 4xx) with a VOTable error document
- ESA validator reports an error for 4xx error codes
- By my reading, SSA is woolly on this, so following DALI should be OK
- ... but I think Markus disagreed

## What's the recommended behaviour

- for clients?
- for validators?

## Do we need an erratum or clarification?