



IVOA identifiers

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Use of fragments

- URIs are defined in IETF RFC 3986
- A URI is composed of:
`<scheme>://<host>/<some/path>#<fragment>`
- The fragment is distinct from the other components –
“the fragment identifier is separated from the rest of the URI prior to a dereference”
- Fragment resolution is a purely *client-side* activity
- As Norman says:
“punctu-ation, isn#t ju`st !dec\$ora/tion”



Reasons for concern

- Scheme handlers may not report the fragment
 - A handler class's API could be constructed such that the handler code has no access to the fragment part of a parsed URI – *not a bug in the API*
- Servers (including caches) may equate URIs with and without fragments
 - “When URIs are compared to select (or avoid) a network action, such as retrieval of a representation, fragment components (if any) should be excluded from the comparison”
 - `ivo://auth/obj#frag` = `ivo://auth/obj` – *not a bug in the cache*
- URIs won't last forever
 - Mappings between URIs and their technological successor may not be friendly to illegal URI practices



Impact on the IVOA

- Standards Registry Extension – URI as a name
`ivo://ivoa.net/std/QueryProtocol#case-insensitive`
- VOSpace
 - Property names
 - Node names: `vos://nvo.caltech!mydata/table1#row3`
- VOEvent
 - `ivo://example.org/stream#local_ID`
 - `ivo://example.org/stream` and `ivo://example.org/stream#local_ID` may be retrieved independently



Recommendations

- URI fragments should only be used:
 - for an object which is not expected to be retrieved
 - for an object retrieved consistent with the URI model
- Any standard involving resource retrieval should explicitly state that fragment processing is expected to be performed by the client.



Serialization

- Use case:
 - A GRB is detected by Swift
 - A corresponding event notification is sent out by GCN
 - GCN supports both VOEvent 1.1 and VOEvent 2.0 formats
- Question:
 - **Should the two event packets have the same IVORN?**
 - The VOEvent WG says yes but wider IVOA discussion suggests no
- Pro:
 - The packets describe the same astrophysical event
 - Subscribers do not have to check whether different events in different formats are the same
 - VOEventNet does not need to keep track of two event citation streams
- Con:
 - The event packets have different checksums (digital signatures)
 - The information content of the two packets could be different – VOEvent 2.0 supports tables