Fig. 1

Fig. 2

Fig. 3

1. Managing managedAuthorites

(cf. Fig. 1)

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(cf. Fig. 2)

- What's an authority, again?
- What's the problem?
- Any fixes?

(cf. Fig. 3)

2. Authorities

An IVOA ID has the form

ivo://authority/resource-key?query-part#fragment

By making sure only one party hands out `resource-keys` for a given `authority`, we make sure that no IVOA ID is assigned to two resources.

. . . which really is what identifiers are all about.

So: Authorities are important.

3. Managing Authorities

By Registry Interfaces 1.0:

1. If you want an authority, ask the registry if it's already taken.

2. If not, register an Authority record.

3. Tell your registry to include it among its managedAuthorities.

Given that there's races in there and ill-meaning parties could spoil the thing, this has worked reasonably well.

4. The Problem

To ensure this works properly, the following must be true:

- Every IVOID's authority part must have an Authority record.
- Every authority must be in some publishing registry's managedAuthorities.
- No two publishing registries may claim the same authority.

How are we doing?

5. Authority Record Exists?

```
select auth from
  (select distinct substring(ivoid, '(ivo://[^/]*)') as auth
  from rr.resource) as q
where
  not exists (
    select 1
    from rr.resource as r
    where auth=ivoid
      and res_type='vg:authority')
```

(Bonus points if you figure out a way to do this in ADQL)

Current registry: Seven offenders.

But: you only have instance records, so you don't really know who to talk to. . .

Volunteers?

Impact: High. If the Authority record doesn't exist, others may claim the authority, and chaos will ensue.

6. Is Every Authority Managed?

```
select ivoid
    from rr.resource as r
    where res_type='vg:authority'
    and not exists (
            select 1 from rr.res_detail as d
            where detail_xpath='/managedAuthority'
                    and 'ivo://' | lower(detail_value)=r.ivoid)
```

Current Registry: 23 authorities claim to be not managed by any authority!

Among them some fairly big names. . .

Volunteers?

Impact: Relatively high. For instance, as I don't trust the Registries' ivo_managed assessements, I'm using managedAuthorities to figure out from where I should accept resource records.

Orphaned authorities make that game a bit precarious.

7. Tug-of-war Between Registries?

```
select ivo_string_agg(ivoid, ' ') as offenders,
  count(*) as num_reg,
  detail_value from rr.res_detail
where detail_xpath='/managedAuthority'
group by detail_value
having count(*)>1
```

Current registry: None. Phew.

I think two registries claiming the same authority is so bad that the RofR should check this while re-harvesting them and protest.

8. So?

What can we offer ops as a "UI" for this sort of thing?