

CPL and CGI Transport in SIP REGISTER Payloads

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Example

```
REGISTER sip:@sip.example.com SIP/2.0
From: Joe User <sip:joe@example.com>
To: "J. User" <sip:joe@example.com>
CSeq: 18 REGISTER
Call-ID: 39485832@joespc.example.com
Accept: application/cpl, application/sdp, text/html
Authorization: Basic am9lOnBhc3N3b3JkAFBX
Content-Type: application/cpl
Content-Length: 150
```

```
<?xml version="1.0" ?>
<!DOCTYPE call SYSTEM "cpl.dtd">
<call>
  <location url="sip:smith@phone.example.com">
    <redirect />
  </location>
</call>
```

Important features

- Scripts are uploaded in bodies of SIP REGISTER messages.
- Servers return the currently registered script in responses to successful registrations (if the request's `Accept` headers specify the script's content type).
- Scripts are deleted by uploading the script content type with an empty body:
Content-Type: `application/cpl`
Content-Length: `0`
- A user has only one script at a time (of a given content type).
- Uploads **MUST** have authorization information.

Persistence Model

- SIP registrations are normally transient — they persist for a fixed length of time (30 minutes).
- Script uploads are **persistent** — they last until explicitly changed or removed, and are stored in non-volatile storage.
- Clients **SHOULD** only transmit scripts when explicitly requested to.
- This prevents “script flapping,” where several clients are periodically uploading different scripts.

Open Issues

- How do we support multiple scripts per user? (e.g. for both incoming calls and outgoing calls).
 - Category tags on the Content-Type?
`Content-Type: application/cpl; category=outgoing`
Enumerating all possible categories gets very complicated.
 - Leaving it up to the script?
 - How do we *return* multiple scripts? `multipart/sip-id`?
- Should this technique use a **Require** header?
 - A server which doesn't understand it should ignore the registration bodies.
 - What if someone wants to use registration bodies for some other purpose?

Open Issues (cont)

- Is the zero-length body for deletion appropriate?
 - What happens if an empty body is legal for a content type?
- Does the persistence model work?
 - It should, but no practical experience with it yet.
 - Is the interaction with REGISTER persistence confusing?
- Should this be an IETF work item?
 - CPL transport is necessary for the CPL work.
 - Is something SIP-specific appropriate for this group?
 - Should this be part of a larger document, “Transporting CPL Scripts,” which covers a large number of techniques?