

102 % of everything is crap



I know the law is “90%” of everything is crap.

Unfortunately, my percentage calculator isn't in the other 10%.

This is a true story of a real project I did recently.

- The task: tool to query and update “on call” phone number in Asterisk PABX
- Asterisk has an API.
AWESOME
- There's a CPAN module.
DOUBLE AWESOME

We already have a paging system to send SMSes to the right person when something is wrong

But other departments want to know who to call in a shit + fan situation.

So my task – update the oncall number in Asterisk.

There's already an API, with a CPAN module.



It's a piece of cake.

The API

“A simple "key: value" line-based protocol. Lines are terminated using CR/LF. We use the term "packet" to describe a set of "key: value" lines that are terminated by an extra CR/LF.”

“Generally the client sends Action packets to the Asterisk server, the server performs the requested operation and returns the result in a Response packet.”

The Asterisk API is just like HTTP headers. Send a set, get a set back.

Each set ends with a blank line.

A bit of time with telnet to learn the protocol, and I'd nailed down the task:

“DBGet to read the current value, DBPut to update it”.

Time to write some code.

The Perl module

NAME

Asterisk::Manager - Asterisk Manager Interface

SYNOPSIS

```
use Asterisk::Manager;

my $astman = new Asterisk::Manager;

$astman->user('username');

$astman->secret('test');

$astman->host('localhost');

$astman->connect || die "Could not connect to " . $astman->host . "!\n";

$astman->disconnect;
```

DESCRIPTION

This module provides a simple interface to the asterisk manager interface.

This is, I tell no lie, the entire documentation for the Perl module.

How to connect, and how to disconnect again.

At least the source is available.

DBGet

Asterisk Manager API Action DBGet

Action: DBGet
Family: <family>
Key: <Key>

Returns:

Response: Error
Message: Database entry not found

or

Response: Success
Message: Result will follow

Event: DBGetResponse
Family: <family>
Key: <key>
Val: <value>

And here's the spec for DBGet (from the wiki). Note how it returns TWO stanzas, not just one. W. T. F. Enterprisy crap 'r' us.

I naively tried to send a DBGet using the Perl API.

The result - a crash during the “disconnect” phase, because it hadn't parsed the second response off the wire yet. Ouch.



Photo: naotakem@flickr

Luckily, I've done some PHP – so I know how to deal with something you don't understand.

Search the internet for copypasta.

CopyPasta

Example in Perl (verified in asterisk 1.4.22)

```
use Asterisk::Manager;
my $astman = new Asterisk::Manager;
$astman->user('<username>');
$astman->secret('<password>');
$astman->host('<host>');
$astman->connect || die $astman->error . "\n";

$astman->sendcommand(Action => 'DBGet', Family => '<family>', Key => '<key>');
my @result = $astman->sendcommand(Event => 'DBGetResponse');
$astman->disconnect;

my $value = $result[7]; -> Value 7 is the returned Value
```

And there it is.

On the wiki.

How to get a value from the DB using Perl.

“Verified”. It says it right in the description.

Count the fails

```
Event: DBGetResponse  
Family: <family>  
Key: <key>  
Val: <value>
```

```
$astman->sendcommand(Action => 'DBGet', Family => '<family>', Key => '<key>');  
my @result = $astman->sendcommand(Event => 'DBGetResponse');  
$astman->disconnect;
```

```
my $value = $result[7]; -> Value 7 is the returned Value
```

But it **WORKS**

Even though the protocol claims to be key-value in random order so you can use your favorite language's hash function – in actual fact the order is consistent.

And the Perl API uses map and “splitresult”, so it doesn't change the ordering.

It might break one day, but for now this works just fine. Has for years. Probably will for many more.

So I have a choice – spend 2 minutes copying that code into my script and fixing the indent, or spend hours building something more robust just in case upstream decides to break everyone who already uses this.

Guess which strategy lets me get home to my kids with the task finished?