Generic Payment System Communications Framework

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Two Levels of Communications

- Part One: application level client/server & peer/peer communications
  - draft-eastlake-internet-payment-00.txt
- Part Two: application/payment module communications
  - to be: draft-eastlake-payment-module-00.txt

Part One

- Price Tags
  - `33.45all foocash:xxxx 22eTb barsys:yyyy 9.999ghC`
- Payments
- Receipts
  - `foocash:29Uso+Oa/e92micHd4s3=`

WWW Application Syntax

- Price Tags
  - Anchors: `<A COST="paymentsystem:xxxxxx 0.10usd 0.17cad" HREF="http://mercenary.com/goodies"> Great stuff for a dime! </A>`
  - Headers: `<head><title>Mating Habits of the Red Breasted Geek</title><cost> 0.75usd 0.99cad CyberCash:A8jneX+qwa8W2/sw== </cost> </head>`
  - Forms: allowed in various places including options and radio buttons

More WWW Syntax

- Payments
  - in the previous “ChargeTo” HTTP header
- Receipts
  - in the new “Receipts” HTTP header
- Proxies are an interesting problem :-)
- note: payment required error code already defined

Other Applications

- Draft defines syntax for
  - FTP
    - Price Tags - in existing 332 and 532 replies.
    - Payments - in existing ACCT command.
    - Receipts - in new 233, 433, and 533, replies.
  - Telnet
    - Define new Telnet option code
  - SMTP
    - Price Tags - in new 332 reply.
    - Payments - in new ACCT command.
    - Receipts - in new 233, 433, and 533 replies.

Part Two

- Building payment systems in applications leads to N x M work problem and maintenance headaches.
- External payment modules with standard PAyment Module Protocol (PAMP) solves these problems.

Messages

Message	Sender	Implementation
MAKE-PAYMENT	user	mandatory
ACCEPT-RECEIPT	user	mandatory
MAKE-PRICE	user	mandatory
ACCEPT-PAYMENT	user	optional
MAKE-REFUND	user	optional
OPEN	user	mandatory
UPDATE	module	mandatory
DISPLAY-PRICE	user	mandatory
CLOSE	user	mandatory
SPECIAL	either	optional

How Part One and Two Fit Together

```
+---------+       +---->other user processes
|         |       |
| payment |<------+  +---------+        +---------+
|         |     ^    |         |        |         |     P
|  module |<-------->|  user1  |<------>|  user2  |<-...A
|         |     ^    |         |    ^   |         |     M
|         |  +------>|         |    |   |         |<-...P
+---------+  |  ^    +---------+    |   +---------+
             |  | PAMP:             | Payment Syntax:
  other      |  |<- make-payment    |<- price tags
  payment <--+  |<- accept-receipt  |<- payments
  module(s)     |<- make-price      |<- receipts
                |<- accept-payment
                |<- make-refund
                |<- open
                |<- update
                |<- display-price
                |<- close
```