First Virtual (TM) Holdings Incorporated’s Approach to Internet Information Commerce

Traditional approaches to Internet commerce:

- -- Focus on goods and services
- -- Require either encryption or a closed system

First Virtual focuses on information commerce

- -- "Information" means no physical goods or future services
- -- No encryption required
- -- Permits rapid introduction of commerce
- -- Consistent with today’s Internet

Background: Toward Internet Information Commerce

Today's Internet has 18 million users in 120 countries, and is growing at the rate of 10% per month

Today's Internet has unrestricted commercial use

Today's Internet has ‘‘mindshare’’

Until October 15, 1994, the Internet did not have commerce, because there was no workable payment infrastructure

A paradigm shift was necessary:

Information commerce differs from traditional commerce

We Introduced a New Paradigm

One that is consistent with the Internet culture,
- so information is still freely available; and,
- if you don’t like what you get, you don’t pay for it; but,
- if you abuse the system you lose your ability to play

One that allows anyone to be a seller or buyer,
- without having to qualify as a Visa/MC merchant;
- to enable an ‘‘unprecedented’’ marketplace

One that keeps sensitive financial information off the Internet, but can use bankcards/checking accounts for settlement

A Fundamental Paradigm Shift

Information Commerce has unique properties

For Buyers:
- Can't evaluate without obtaining

For Sellers:
- Doesn't need returned goods;
- Near-zero cost of inventory and distribution; and,
- Relatively low out-of-pocket expenses

Duplicate, Download, and then Decide to Pay: Benefits to Sellers

Accounting, billing, and collection are simplified
(we’re the ‘‘back office’’)

The entire Internet community is enabled as the market,
helping to offset the risk of non-payment

‘‘Shareware’’ is the proof of concept:
Some folks have earned a lot of income.
With FV, payment is automatic.
With FV, abusers lose privileges.

Duplicate, Download, and then Decide to Pay: Benefits to Buyers

Examine information before deciding to pay for it

E-mail confirmation of buyer acceptance detects fraud

Bankcard and checking information is not sent on the Internet

No cryptography is needed!

For privacy, cryptography can be layered on optionally later.

Commerce and Inventory

Commerce evolved for goods or services.

Information is traditionally bundled as one of these, e.g., delivered in a book, or, delivered by a specialist

Before bankcards,

Sellers arranged for financing/factoring of inventory;

But now, many aspects are provided by cardissuer banks

Inventory is costly:

Shipping, handling, trucking, warehousing, etc.

returnced goods, damaged merchandise, etc.

The cost of producing information (e.g., royalties) is small, compared to the cost of inventory

Enter the Internet

With a computer, electronic information can be duplicated cheaply

With the Internet, electronic information can be delivered cheaply -- almost for free compared to the cost of trucks, warehouses, etc.

Of course, Internet access does cost real money.

But each subscriber pays their own (small) cost of access

The dominant cost is now information creation/synthesis,
and NOT the cost of inventory!

First Virtual's Goals

--Focus on Internet Information Commerce

--Allow anyone to buy or sell

--Never exchange/keep financial information on the Internet

--Security, but no cryptography

--No special software

--Work with today's Web, FTP, and E-Mail

--High degree of privacy

--Very low cost ($0.29 + 2% per transaction)

--Available today (a working system, not a statement of direction)

Who is First Virtual?

Technical:

- Nathaniel Borenstein, Chief Scientist
- Carlyn Lowery, Line Operations
- Darren New, InfoHaus Development
- Marshall T. Rose, Principal
- Einar Stefferud, Chief Visionary

Management:

- Lee Stein, President and COO

Strategic Partners:

- Financial: EDS, First USA
- Marketing: MCI, NDMC
- Support: Lloyd Internetworking, NCD/Z-Code

First Virtual's Actions are Respectful of the Internet Culture

Specifications published openly

Approach leverages existing infrastructure

Freely-available software

Commercial support available

System operational prior to public announcement

System operated on a cost-recovery basis

The Account Application Process

Buyer fills out application form via Telnet, Web, Email, etc.

Includes all non-sensitive information:
- -- Name
- -- Email address
- -- Address, phone, etc.
- -- Account-ID choice
- -- Optional settings

First Virtual checks for completeness & validity.

If complete, FV sends "almost ready" message, including 12-digit application-id

-- To activate your account as a BUYER:
- -- Call 1-800-*** with app-id and CC#
- -- $2 charge on credit card
- -- Credit card used for future purchases

-- To activate your account as a SELLER:
- -- Send a $10 check to PO Box ****
- -- Bank account credited for future sales

Notification by email when account is ready to use for buying, selling, or both.

The Transaction Process

Seller receives order via Web, FTP, E-Mail, etc.

Seller may validate account in real-time or via e-mail

If seller honors order:
- Information sent to buyer
- Transaction record sent to First Virtual

First Virtual sends ‘‘transfer token’’ to buyer via e-mail

Buyer replies with 1 word:
- Yes: payment is authorized.
- No: payment is declined.
- Fraud: cancel account.

Seller bears risk of non-payment,
but buyers who say ‘‘no’’ too often get invalidated

The Settlement Process

When buyer accumulates more than \$N of charges:
- A single bankcard transaction is originated
- Buyer gets a detailed summary via e-mail

First Virtual ages funds for 90 days, and then regularly:
- Deposits money into seller’s direct deposit account
- Notifies seller in detail via e-mail

The 90 day period will eventually be reduced for some sellers

Chargebacks result in invalidation of buyer account

Infrastructural Support

No new software needed for clients

Free software available for servers:
- Patch kits for WU ftpd
- CGI scripts for Web servers
- Shell scripts and C API for programmers

Plus commercial support:
- Lloyd Internetworking (server set-up); and,
- NCD/Z-Code (client software)

For more information:
- Telnet to: telnet.card.com
- Mail to: info@fv.com
- Web URL: http://www.fv.com