Nimbus Cloud Computer

PC Functionality – anytime, anywhere – the easy way

Contents

- The Problem
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- Markets and Channels
- Pricing and Costs

The Problem

- How many people want 1/4" drill bits?
  - None – but a lot of people need 1/4" holes
- How many people want a PC?
  - Some **do** really need a full PC
  - A large number want **basic** PC **functions**
    - E-mail
    - Web browsing
    - View pictures
    - **Simple** documents and spreadsheets

The Problem

- Cost
  - Up front cost for PC and software
  - $300 - $2000+
- Administration of a PC
  - The hidden trap
  - Updates, drivers, virus scans, backup, ...
  - **Way** beyond what most people can or want to do!

Nimbus Cloud Computer

- **Virtual** PC functionality
  - Delivers screen, keyboard, mouse to user
  - Resides in a data-center
  - Nimbus unit provides USB
    - Printers
    - Flash drives
    - Speakers, headsets
    - Digital Cameras
  - **Or** Web browser or Android

Benefits – Low Cost

- No up-front cost (subscription model)
- No contract – just return the Nimbus
- Free (open source) software
- Advertising supported (or higher no-Ad price)
- Low power (~$10/mo power saving over full PC)

Benefits – No Hassle!

- Zero installation (plug in, turn on, register)
- Instant on (power on to ready < 1 second)
- Automatic updates (infrequent and < 10 seconds)
- Small footprint, zero noise, low heat
- ScreenPC handles all Administration
  - Backups
  - Virus scans
  - Spam filters
  - System and Application updates
  - etc

Simplicity ....

- User Needs
  - Broadband
  - Nimbus unit
    - Screen, keyboard, mouse
  - **or** PC w Web browser
  - **or** Android (G1Phone)

- ... and then has
  - E-mail
  - Web Browser
  - Document writer
  - Spreadsheet
  - Picture viewer
  - Dedicated apps (corporate)
  - …. and much more

... but not perfect

- Video is scratchy at best
  - ... technical fix possible but not easy
- High-activity games are poor
- Lossy compression algorithm
  - Some shadows, distortion on images
  - Lossless will be user-selectable
- 16-bit pixels (vs 24-bit)

Market Segments

- Consumer – mother-in-law computer
- SMB – low cost, multi-seat, multi-location
- Large Business – in-house installation
- Special Purpose Applications
- Franchise – service supplier (IBM, EDS,..)

Consumer Market

- Mother-in-law computer
  - PC alternative
  - Low cost
  - Zero administration
- 2nd or 3rd unit in a household
  - Supplement existing PC
- Appliance
  - Kitchen unit
  - E-mail unit

Consumer Channels

- Broadband Provider
  - Cable, phone companies
  - Independent ISPs
- Nimbus is ....
  - Add-on product and revenue stream
  - "PC in a box"
  - Pull-through effect for broadband sales
  - Packages: TV + Voice + Broadband + PC
  - Sticky – e-mail & files on Nimbus

Consumer Channels

- Retail
  - Requires marketing campaign $$$s
    - **Or** viral possible?
  - Web store
  - Best Buy, etc
    - Needs brand awareness first
    - Needs business model for revenue split

Small/Medium Business

- Low cost, incremental cost steps
  - Volume discounts for N units
- No IT department required
- Multi-user
  - Master/child account control
  - Automatic sharing of files, printers, etc
- Multi-location
  - No need for WAN, VPNs, etc
- Microsoft Windows if needed

Large Business

- Dedicated in-house installation
- Mobility – soft client, G1Phone, Android
- Security – **nothing** on the local device!
- Centralized administration
- Managed growth
- Existing players: Citrix, thin clients, ...
- Channel: TBD

Dedicated Applications

- All of the above re cost, administration,...
- Easier to develop than Web-based
- Mobility, security may be important
- Design for small screen (e.g. G1Phone)
- Ex: medical records
- Ex: auto parts stores
- Channel: TBD

Franchise Channel

- IBM, EDS, ...
- Nimbus technology for ...
  - Large-scale dedicated applications
  - SMB market products
  - Large company installations

Basic Costs

- Nimbus units – path to de minimus
  - small scale – $100/unit
  - 5,000+ – **$60/unit**
  - ASIC based – $45/unit
  - Integrated – **$25/unit** (est) (monitors, laptops,..)
- CapEx – **$30/user** (data-center equipment)
- OpEx – **retail** $5 user/month (est)
  - $2 – Data-center space, power, bandwidth
  - $2 – Customer support
  - $1 – G&A

Pricing

- Consumers
  - $9.95/mo 1st account
  - $7.95/mo additional
  - $5.00/mo 1st Nimbus
  - $4.00/mo additional

- Single user – $14.95

- Small Business
  - Basically the same
  - … but volume plans

- Large Business
  - Dedicated DC
  - Pricing TBD

Potholes ....

- Technology – **much** longer to develop
  - Hardware/software combination
  - Bare-metal development to meet price point
  - Linux internals are not pretty ...
- Dead End(?): **Free**, Ad supported
  - The numbers don't work – only $1-2/mo
- Dead End: Broadband providers
  - General new product inertia
  - Full motion video mentality

Ad-Revenue – Web Sites

- Web sites must be visited!
  - Average page view is very short (< 10 secs)
  - Basic cost is low (servers)
  - Many visitors = many views = $$$s
- Most sites struggle!
  - Mega-sites thrive (Google, Yahoo, ...)
  - Very small sites can work (bloggers)
  - Any site with real expenses has a problem
    - Ex: On-Line Newspapers w staff expenses

Ad-Revenue – Nimbus

- Ad panel visible for hours
- Basic demographic information is known
- Control of display time for each Ad
  - Initially based on $$$s generated
  - Then sold as N-second slots for a premium
- Data-mine: browsing history, bookmarks, search queries, documents, e-mail, ...
- Can Nimbus be **Free**???

Patents

- Basics are Open Source or well known
  - VNC framework, thin clients, TCP/IP, ...
- Possible?
  - Consumer business model?
  - Virtualized USB?
  - Screen compression protocol
  - Hardware/software integration?