A Clash of Two Cultures

ISPs and Telcos

Geoff Huston

Telco Evolution

- Post
- Telegraph
- Telephone…

- Common Carrier role
  - one service, one policy, one operator
  - Regulatory barriers to competitive entry
  - indirect taxation base

ISP Evolution

- From…Private corporate networks
  - leased line services
  - vendor-based scope limitations
  - mainframe access networks
- To…LANs
  - private wire services, open standards
  - PC distribution networks
- To…Packet Switched Networks
  - leased line services
  - common LAN / WAN data platform

ISP Evolution

- Service Internet Providers
  - Inter-Corporate connectivity
  - Public Email service network
- Dial Access Providers
  - Retail dial access model - email, web services

ISP Evolution

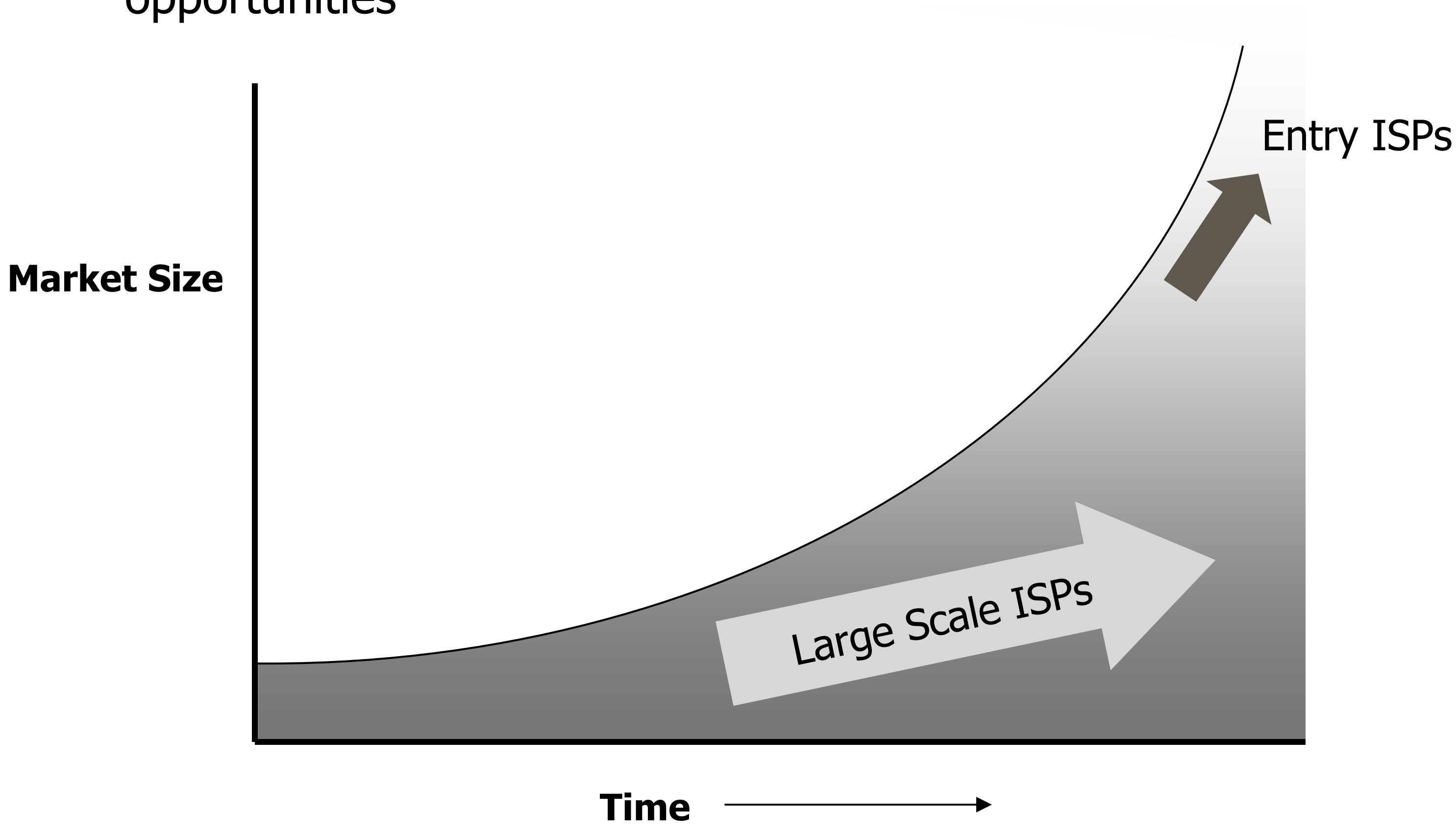
- Full Service ISPs
  - Dial Access, Web Publishing, Email, VPNs …
- Carrier services:
  - ISDN primary rate access services
  - Leased Line services
  - Private 4 wire services
  - Radio Spectrum services
  - IPLs

WHY did ISPs appear?

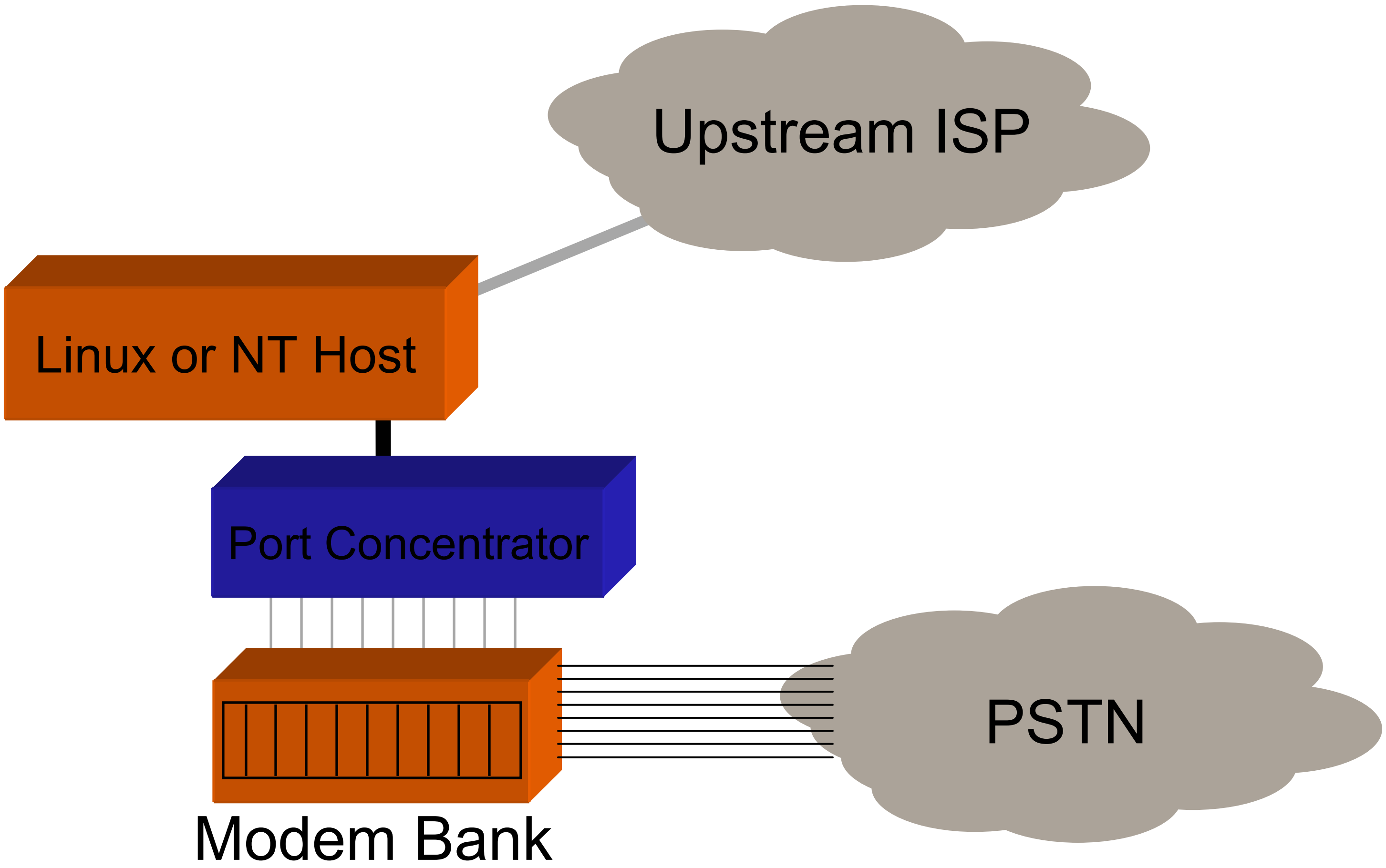
- Classic Market Opportunity :
  - Deregulated communications environment
  - No license fees
  - No high capital requirement
  - No infrastructure build required - overlay
  - No incumbent monopoly operator
  - No market resistance (quite the opposite)

ISP Opportunities

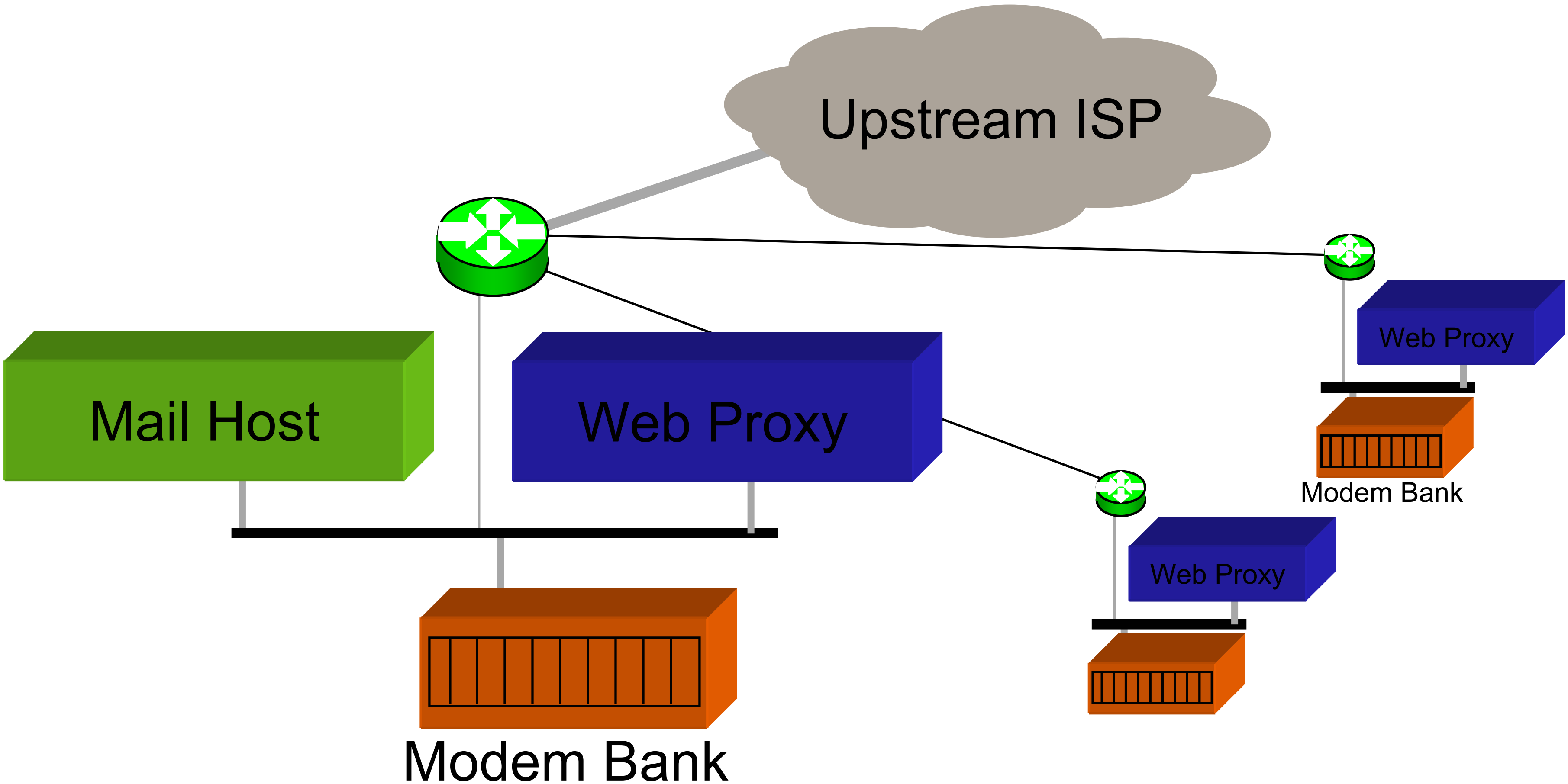
- In a rapidly expanding market, the initial market entrant is the small player with high flexibility - larger players take more time to react to new market opportunities



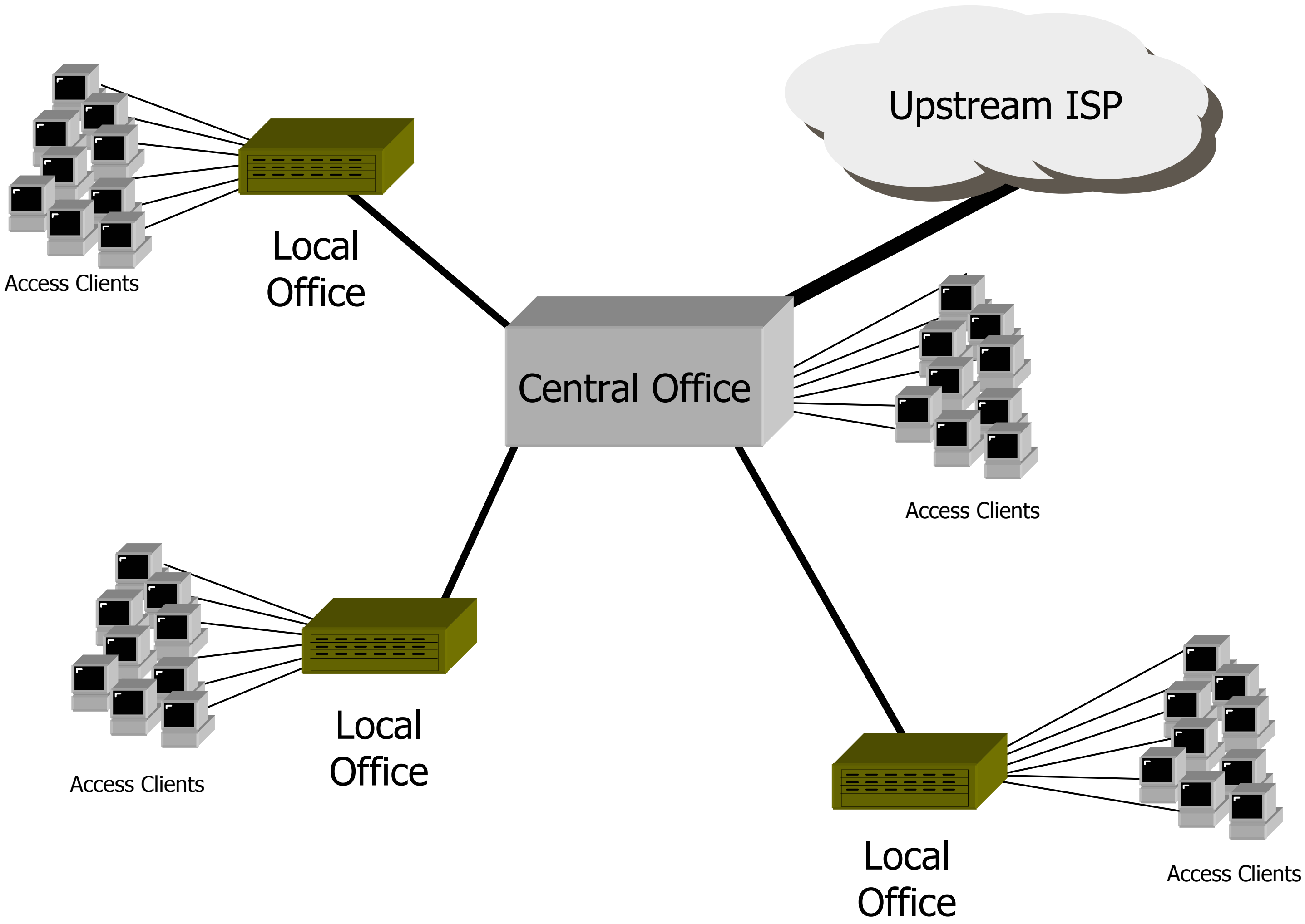
Generic ISP profile - Small



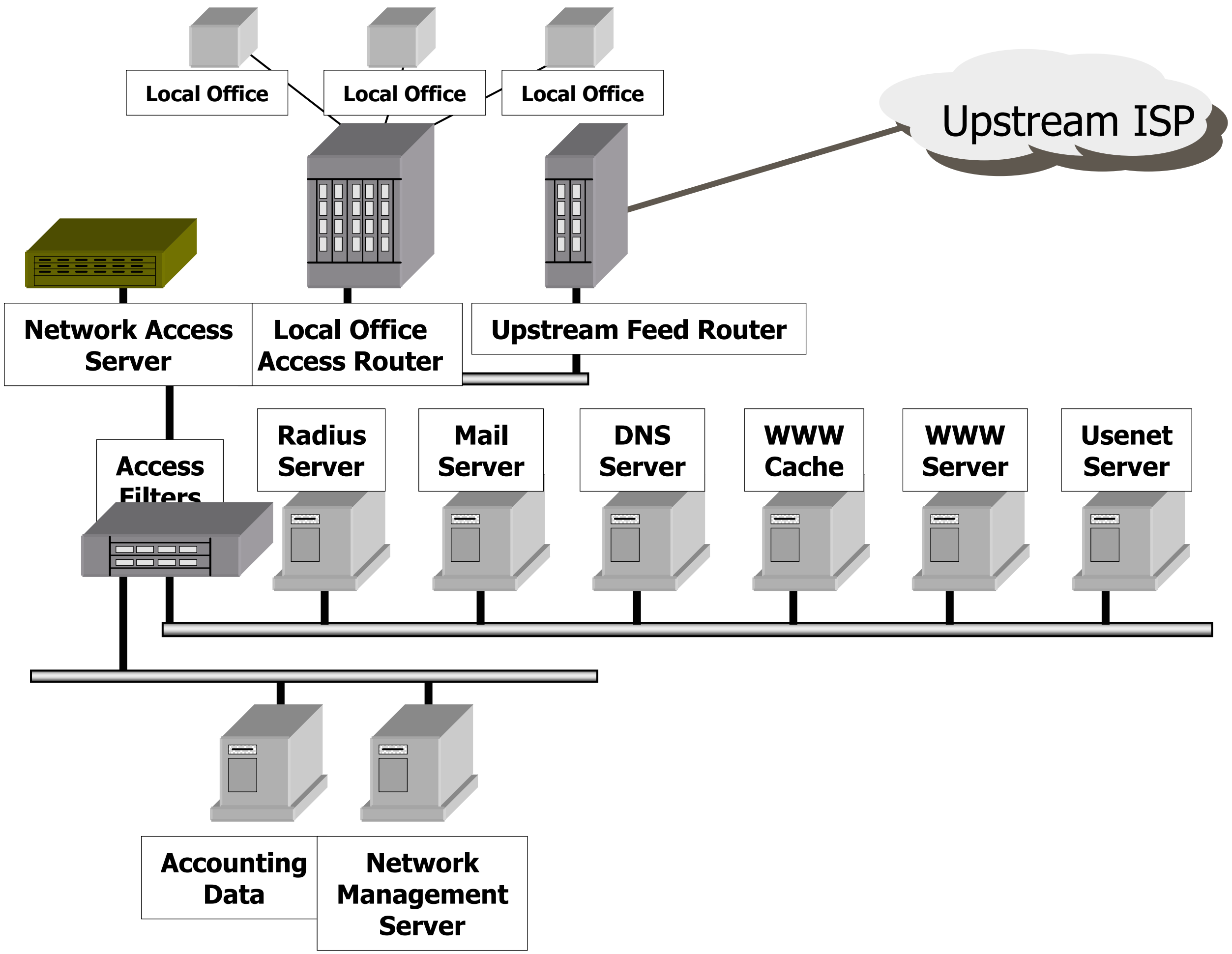
Generic ISP Profile - Medium



Generic ISP Profile - Large



Generic ISP Profile - Large



The Telco Perspective

- Voice is good business...
  - Installed asset base
  - Static service model
  - Historical monopoly incumbent
  - High revenue potential

The Telco Perspective

- Voice Protect Mode
  - Barriers to voice entry decreasing
  - Protect core voice assets from competition
  - Service the data market at voice bypass prevention pricing
  - Restrict resale access to high capacity high quality data carriage capability

The Telco and Data

- One view is that the Telco serviced the data market to prevent private-wired corporate voice systems gaining market impetus
- It is likely that the Telco did not forsee a competitive data service industry due to:
  - competing data standards
  - low value data transactions

The Telco Perspective

- The data market was serviced using the margins of oversupply of voice
  - Voice provisioning uses long-term investment models
  - Voice service architecture relies on over-provisioned network
- Leased Line data transmission services required no additional infrastructure investment

The Problem

- Data over Voice is Exhausted

- Access (Modem) market
  - Slow, Inefficient, Complicated, Unreliable
  - Call Characteristics:
    - voice vs modem access call
  - Call Concentrations move out to the surburbs
  - Copper loop quality problems

The Problem

- Data over Voice

- Leased Line market
  - increasing bandwidth
  - different load pattern
  - different circuit characteristics required

The ISPs view of the Telco

- incompetence or malice?

The ISPs view of the Telco

- Critical path supplier
  - Incoming calls
  - ISDN primary rate accesses
  - Digital circuits
  - IPLs
  - Upstream Wholesale IP

The ISPs view of the Telco

- competitor
  - larger
    - more capital
    - more staff
    - customer relationships
    - billing capability
    - larger network
  - cheaper

Telco Services to ISPs

- circuit provider

and

- call termination provider

and

- Upstream wholesale ISP

- Single service interface ?

The ISP view of the Telco

- dissatisfaction
- suspicion
- forced relationship
- gorilla competitor

The ideal ISP's Telco

- good, fast, accurate, cheap
- fast service provisioning
- wide portfolio of data services
- low prices
- high quality
- high service accuracy
- non-competitive retail services

The Telco view

- confused

The Telco view of the ISP

- under-capitalized
- poor service quality
- poor business foundation
- limited role
- limited future
- distracting competitor

The Telco view

- ISPs are a potential revenue stream
  - call revenue
  - services revnue
  - circuit revenue
  - wholesale IP revenue
- In a competitive carrier world this market cannot be ignored

Servicing the ISP Sector

- Understand the sector's requirements
- Set realistic expectations
- Create appropriate service delivery processes

The ISP plan

1. Market Entry
2. Rapid Growth
3. Market Exit

ISP Plan - 1. Market Entry

- market analysis
- business plan
- technology plan
- capital
- equipment
- marketing plan
- carrier services
- deployment
- service delivery processes
- staff
- boundless optimism

ISP Plan - 2. Growth

- rapid application of:
  - capital
  - equipment
  - carrier services
  - staff
  - service processes
- to meet demand

ISP Plan - 3. Market Exit

- Sale of business assets:
  - expertise
  - customer contracts
  - growth potential

or

- Public Float:
  - an investor market primed on e*hysteria

Problem Points

- The PSTN battleground
  - large scale ISDN demand in the CAN without associated call revenue
  - PSTN modem access models are stressing ISDN investment and revenue model
  - Expectation of 56K V.90 copper pair causing service calls
  - Second PSTN line demand in the surburbs stressing copper plant
  - Wholesale dial access yet to be accepted

Problem Points

- The Leased Line battleground
  - DC copper pairs
  - ISDN PVCs
  - Frame Relay PVCs
  - High speed DDS services
  - dark fibre

Problem Points

- The IP Battleground
  - lack of wholesale tariff point
  - bundled IP vs unbundled IP
  - settlements (or the lack thereof)
  - competitive interest in the customer
  - competitive distraction of limited expertise
    - Telco’s own ISP absorbs all available clue!
    - Clue density is a continuing problem

Problem Points

- The Voice Battleground
  - VOIP is viable in competition to existing voice pricing
  - Voice revenue leakage to the ISP sector is emerging

Futures

- competition for the wire will change both the Telco AND the ISP industries
  - Aggregation in the ISP sector
  - Trimming done in the Telco sector