

Doing ISP Business in France

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Paris

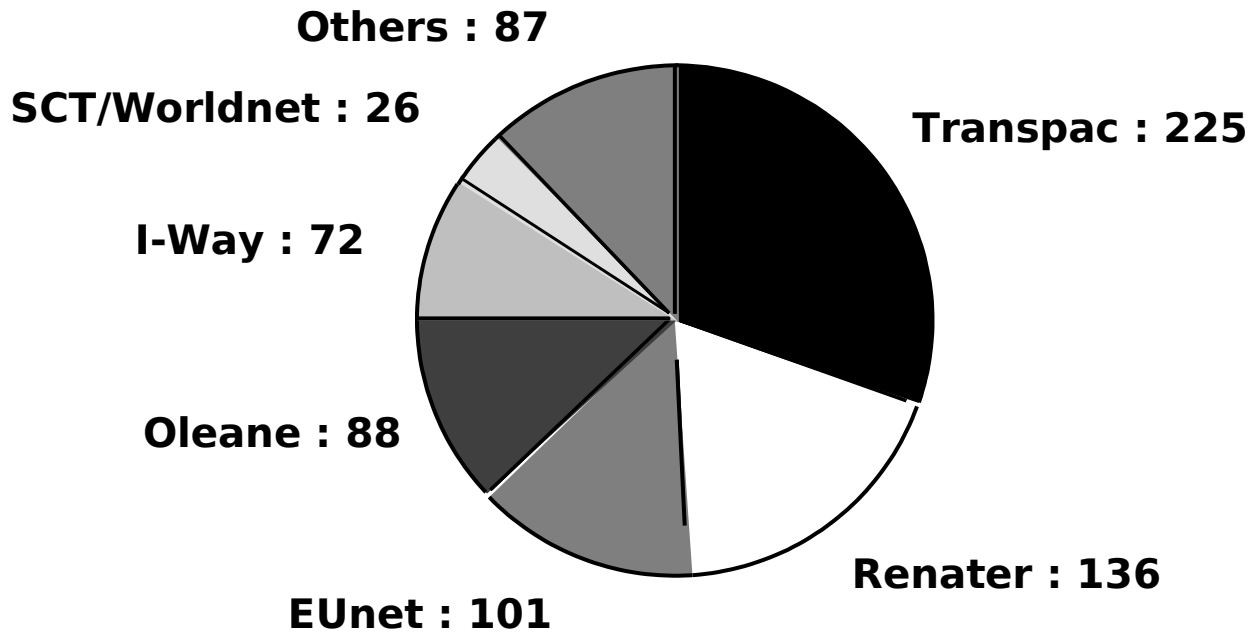


ISP situation in France

- **5 Major ISPs**
(Transpac, Renater, Olean, Internet-Way, EUNet)
- **ISPs provide 66%, proprietary services 34%**
(CompuServe 84%, AOL 2%, MSN 13%).
- **Major dial-up providers are:**
Imaginet, France Pratique, World Net, and Micronet.
(France Pratique is I-Way reseller)
- **28% users changed ISP during the last three months.**
- **Users are 28% Mac, 79% PC**
- **Average cost is 100FF (\$20), plus 4 to 20FF/hr. local telephone costs**
- **35% PCs sold last month had modems.**

Market Share

735 Domains .fr in 1995



High Costs in Europe

- **Bandwidth**

- US: T-1 loop typically \$500/mo.
- France: E-1 loop is \$10,000 install + \$2,000/mo.
- All longhaul circuits cost the same. (they radiate from Paris).
- No big savings to build mesh network.
- Connection to the US is expensive, transatlantic E-1 costs \$50,000/mo., and pricing is flat up to T-3.

High Costs

- **Dial-up**
 - Hourly charge of \$1 to \$4/hr. for local voice calls
 - ISDN same price as voice, with many incentives to install
- **People**
 - Over 42% social security tax
 - Must pay people for months after discharge or layoff
- **Equipment**
 - Most US vendors require "uplift" charges (Cisco is 25%).
 - Resellers control importation and get a cut

Internet-Way: History

- Founded in early 1994
- Co-Founders:
 - Jerome Lecat (experienced venture capital),
 - Olivier Dauchot (consultant)
- Advisor:
 - Thomas Jacobson (25 years networking experience)
- Incorporated in France, S.A., mid-1994
- Team of 20 staff, trained over the last 2 years

Internet-Way: Key Figures

- **450 corporate clients**
- **Over 60 commercial webs hosted**
- **Over 70 leased line customers**
- **Over 4000 dial-up accounts, growing at 20% per month**
- **7 POPs in Operation**
 - Paris
 - Les Ulis
 - Nice
 - Rennes
 - Bordeaux
 - Sophia
 - Toulouse

Internet-Way: Revenues

- Profitable since April (after 2yrs ops)
- First 1/2 96: 5.5MFF revenues
- 3MFF for the Q3 96
- On track for 15MFF for 96
- Valuation: 36 - 73MFF (at 3 to 6 X rev.)
- Now profiting from installed infrastructure margin



Internet-Way:Recent

- 10 leased lines sold in July 96
- Several large web developments sold
- National backbone now upgrading to 384Kbps (Fastest in France)
- MAE Paris and MAE East connectivity projects proceeding well, acting as main MFS technical partner to build MAE Paris.



Charter

- ***Be the leading provider of complete, quality solutions for corporations and online services.***



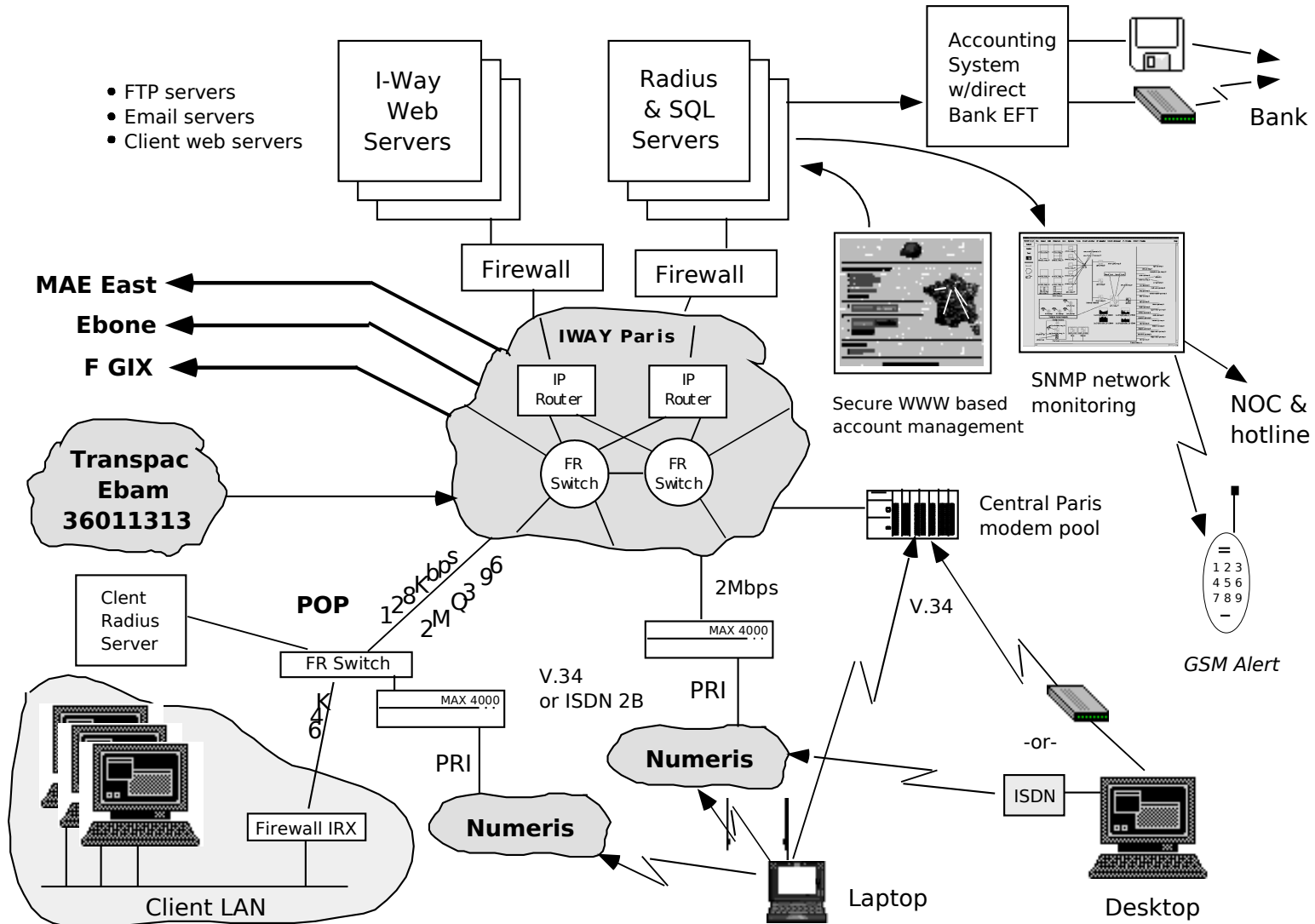
Bandwidth Management

- Need for end-to-end management
- High cost of leased lines in France
- High cost of transatlantic leased lines
- Different bandwidth requirement by application
- Offer customer basic or premium service choice

Strategic Integration of Technologies

- **Access control and accounting**
(RADIUS on Ascend, Livingston and Cisco)
- **Reliable Web and database servers**
(SGI w/HA and XFS)
- **Subscriber LAN-Internet scrutiny**
(Livingston filter and Netsite Proxy)
- **Individual authentication and electronic commerce**
(Netsite, Activcard)

I-Way's Integrated Service:



Typical Customers

The logo for Nice-Matin, featuring the text "nice-matin" in a bold, lowercase, sans-serif font. A horizontal line is positioned below the text, ending in a small circular icon containing a stylized "m".

– *Nice-Matin*

- A leading daily newspaper with Minitel experience
- Develop a new Internet Service to leverage their editing content
- Managed jointly by Nice-Matin and Internet-Way, with knowledge transfer

Typical Customers (continued)

- **France Pratique**
 - A French publishing group
 - Develop an online service to leverage their existing content
 - Service is entirely managed by Internet-Way



Internet-Net Way's Associated French companies

- CalvaCom
- FranceNet
- ImagiNet



Current Network

July 1, 1996

- **“Wired” Capacity:**
 - Paris: 192 V.34 ports in Paris, 30 ISDN B in Paris
 - POPs: 128 mixed (V34/ISDN) across POPs
- **Facilities**
 - in place to increase this capacity quickly to 406 V.34 and 270 ISDN across the network.

Network (continued)

- Backbone Routers:
 - 5 ea. 12 port Frame Relay switches in Paris and 3 at POPs
 - 7 Cisco & Livingston backbone routers
 - 2 Cisco leased at MAE Paris



Network (continued)

- Servers:
 - 5 ea. Sun Sparc 10&20 servers w/ 20GB online
 - SGI Challenge S based web server w/INFORMIX Illustria
 - (Not counting special Sparc 2s or 5s used for security and functionally separate services such as DNS and SNMP monitoring)



Network (continued)

- SNMP monitoring.
- Professional engineering staff in attendance 9 a.m.-11 p.m.
- Other staff monitoring during off hours.



NOC

- SNMP based management system
- Monitoring of all network components
- Automatic pager alarm
- Full log of network activity



Security

- Livingston Firewall IRX
- Isolation by Frame Relay DLCI
- Rapid response to security attacks
- Audit trails



Hosting

- **SGI Challenge & Raid**

- Peak time capacity
- Instant recovery
- Expandable multiprocessing system
- Online equipment change for upgrade
- Facilitates online backup
- Netscape



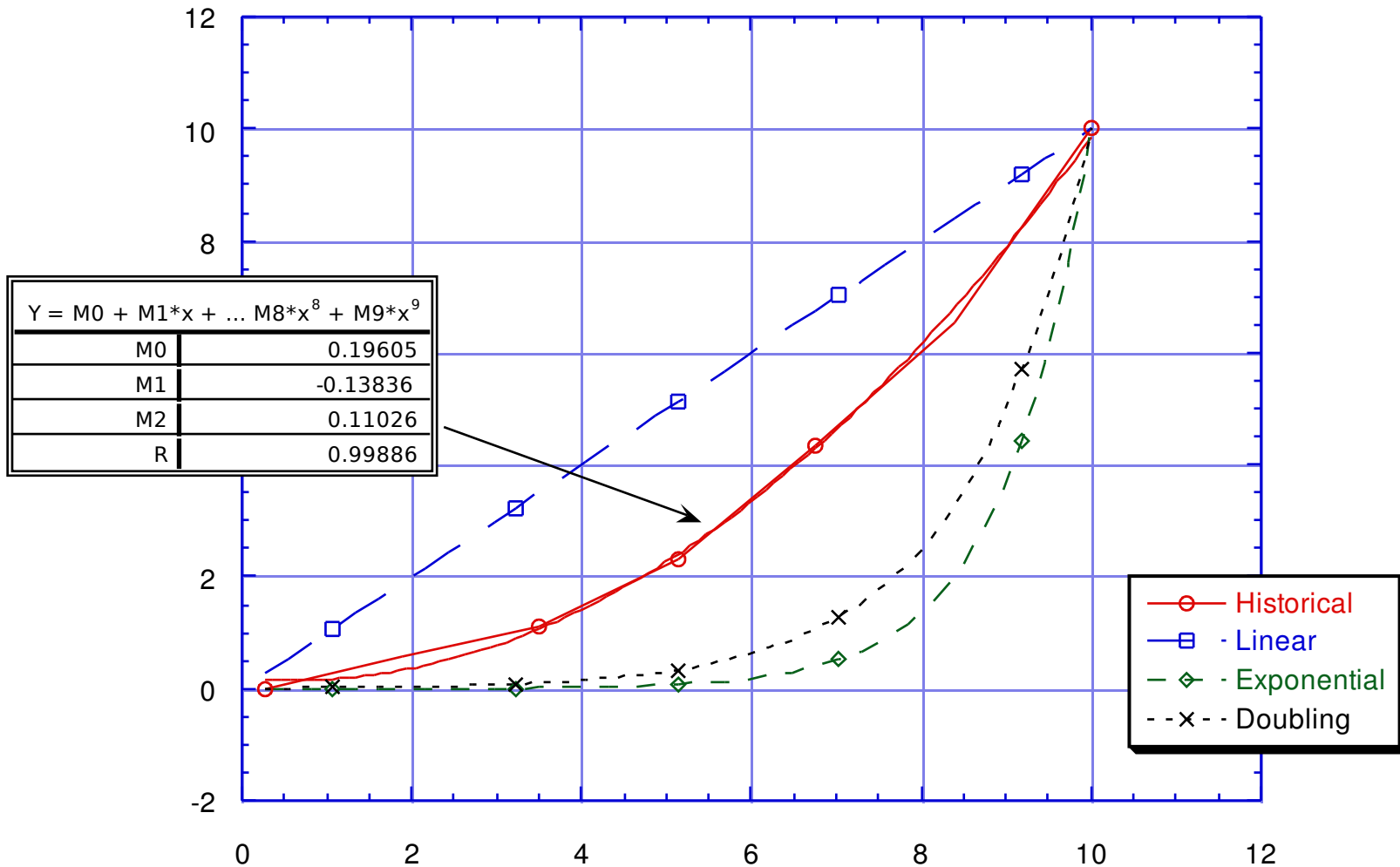
Administration

- **RADIUS Access Control**
 - Fully encrypted authentication
 - Different service type management (limitation by time, application, location)



Anticipated Growth

Internet Growth Options



Technical Strategy for Success

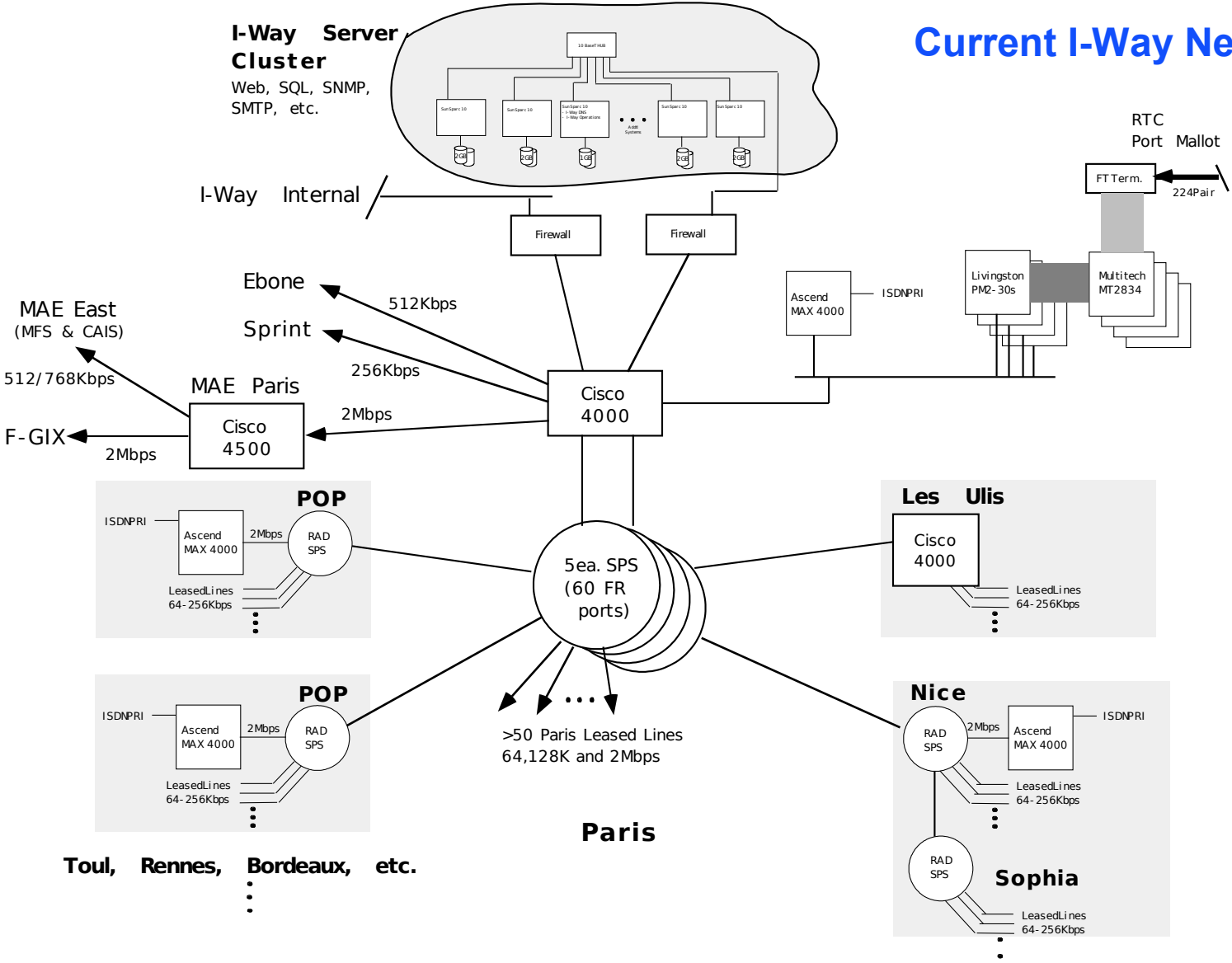
- Secure, manageable and high speed national backbone
- International connectivity with bandwidth management
- Secure, high capacity and reliable web servers
- Accounting & Billing relational database

Part II

Technical Aspects



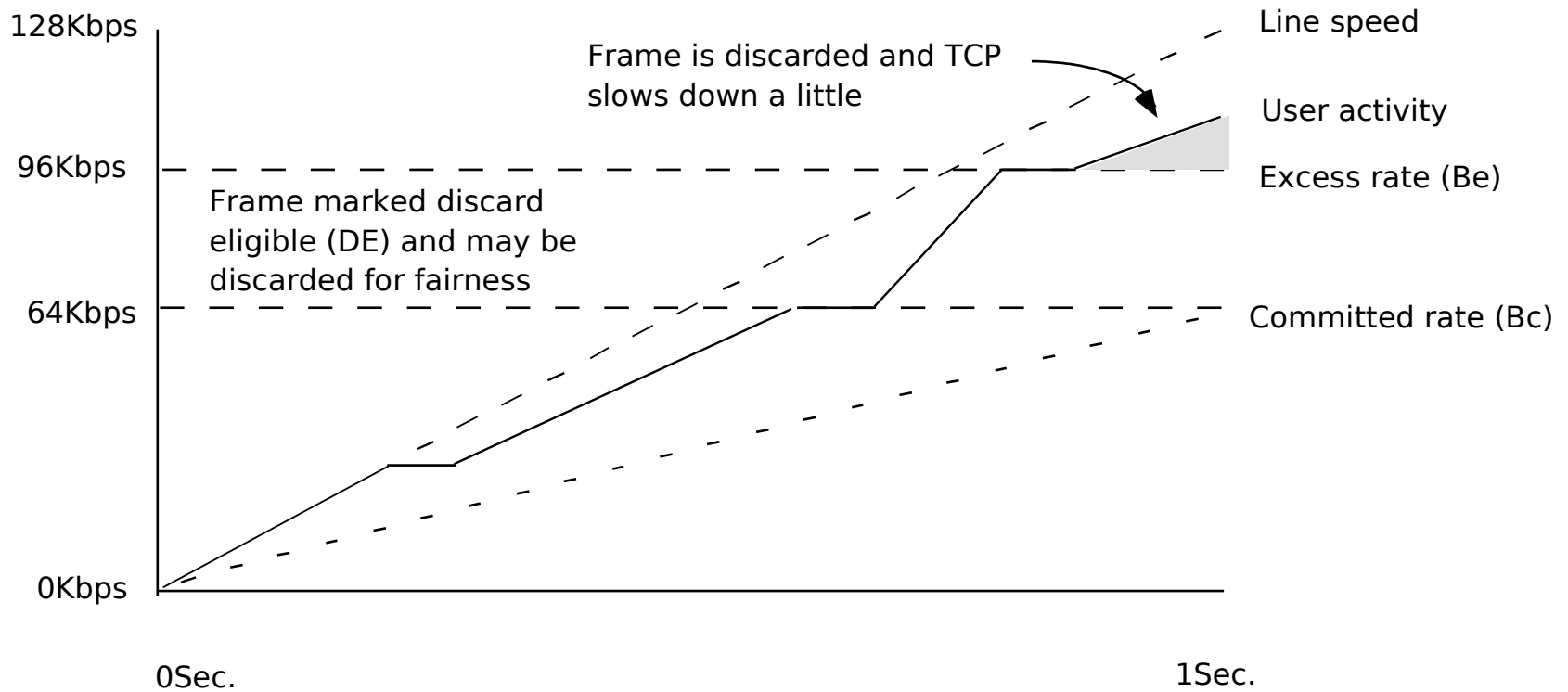
Current I-Way Net



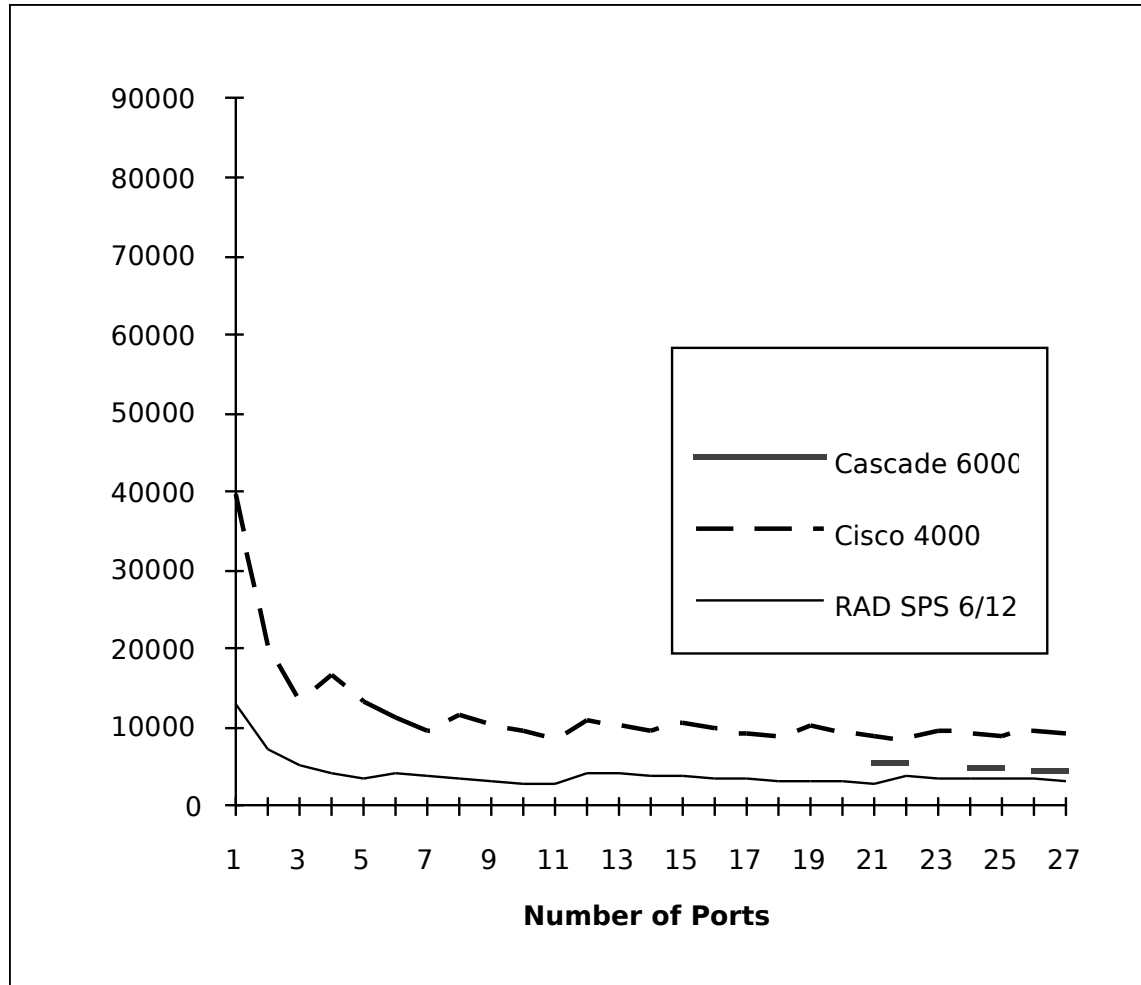
Bandwidth Management

- Frame Relay
- Bandwidth allocation by application/client
- Full statistics on bandwidth usage

Committed Information Rate Example



Cost per FR switch port at a POP



RADIUS

- **Management of different POPs with different type of services and different databases**
- **Based on SQL database**
- **Web interface**
- **Supports different clients: free users, closed accounts, aggregated groups**
- **Supports priority users: guest users, administrative users, etc.**
- **Restriction by type of service (mail, www, etc..)**
- **Restriction by time (prime, off-peak, etc..)**
- **Restriction by numbers of users (per service, per aggregate group)**
- **Auto-close accounts**
- **Real time statistics and logs**
- **Billing interface for invoicing**

Administration

- **SQL Database Accounting System**
 - Multiple Authentication servers
 - Flexible client-server architecture
 - Log of all activities



Administration (continued)

- **Web Based Management Interface**
 - Account management (open, close, suspend account)
 - Accounting based on multiple criteria (usage, application)
 - Invoicing & electronic bank transfers
 - Monitoring (real time activity, last connections...)
 - Ease of use, decentralized management.

Dial-up Account Management



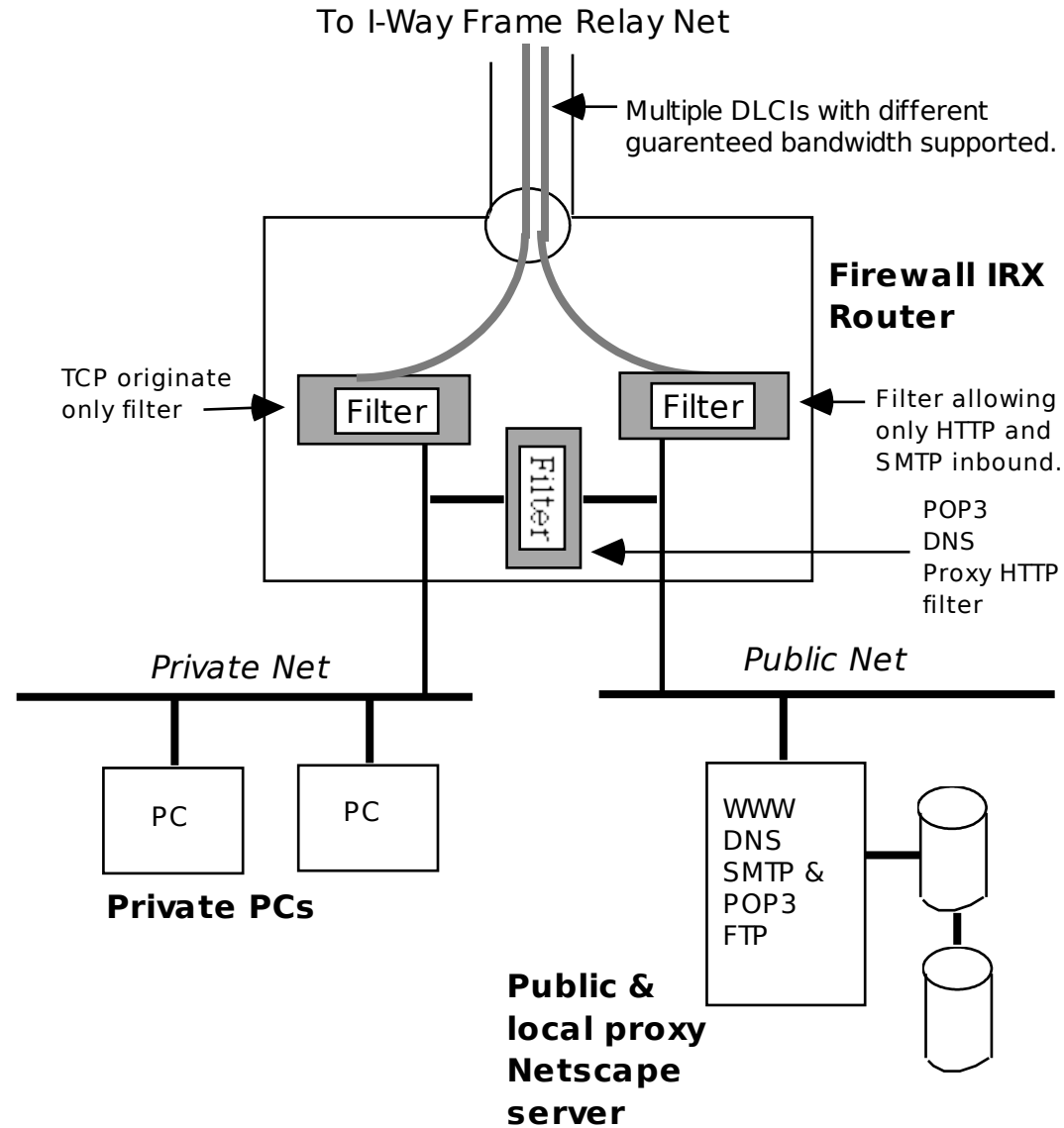
User Acceptance/Rejection

Access Control Enables:

- Complete, managed, national bundled services
- Basic and premium dial-up service
- Secure corporate intranets

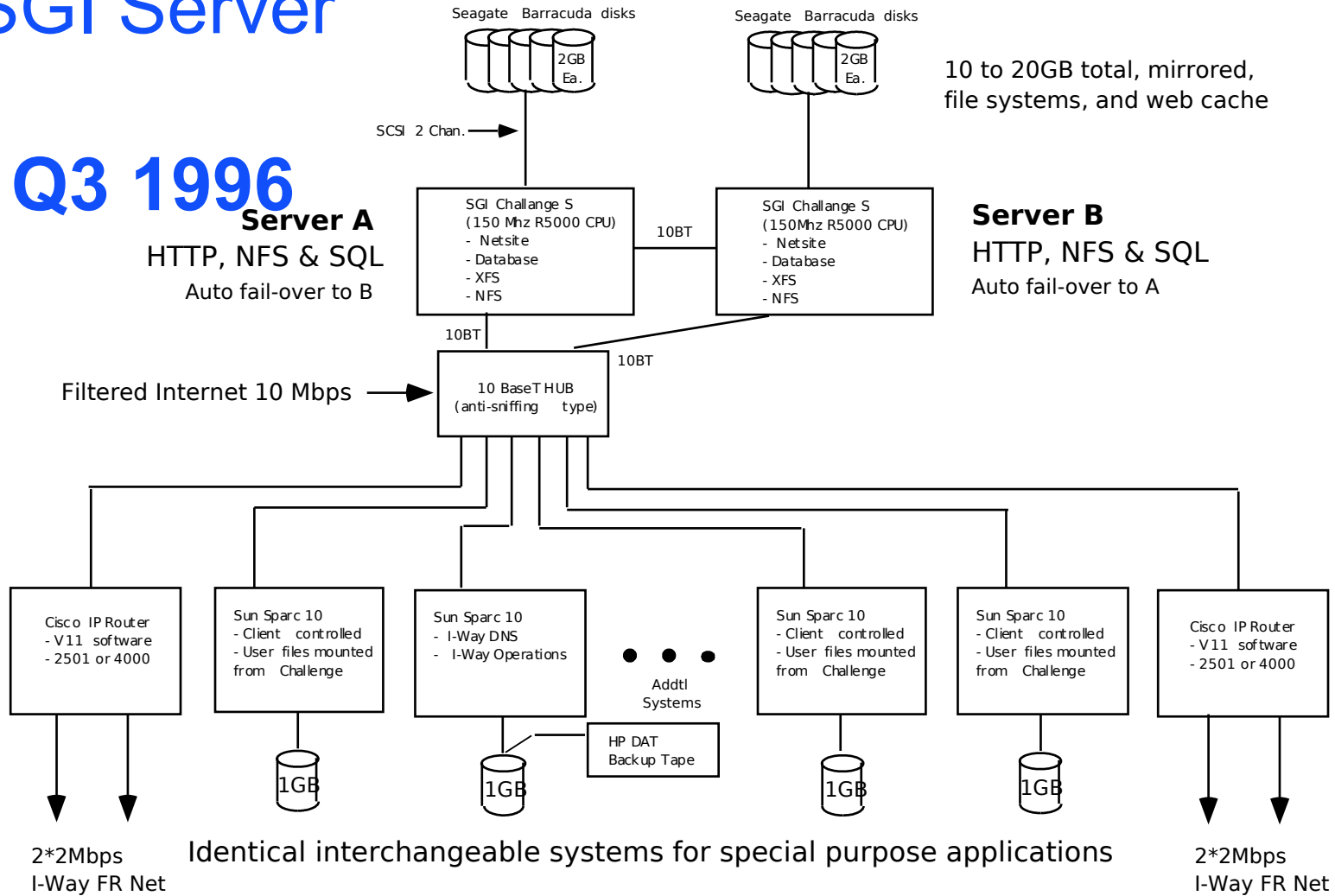


Security: I-Way Firewall Model

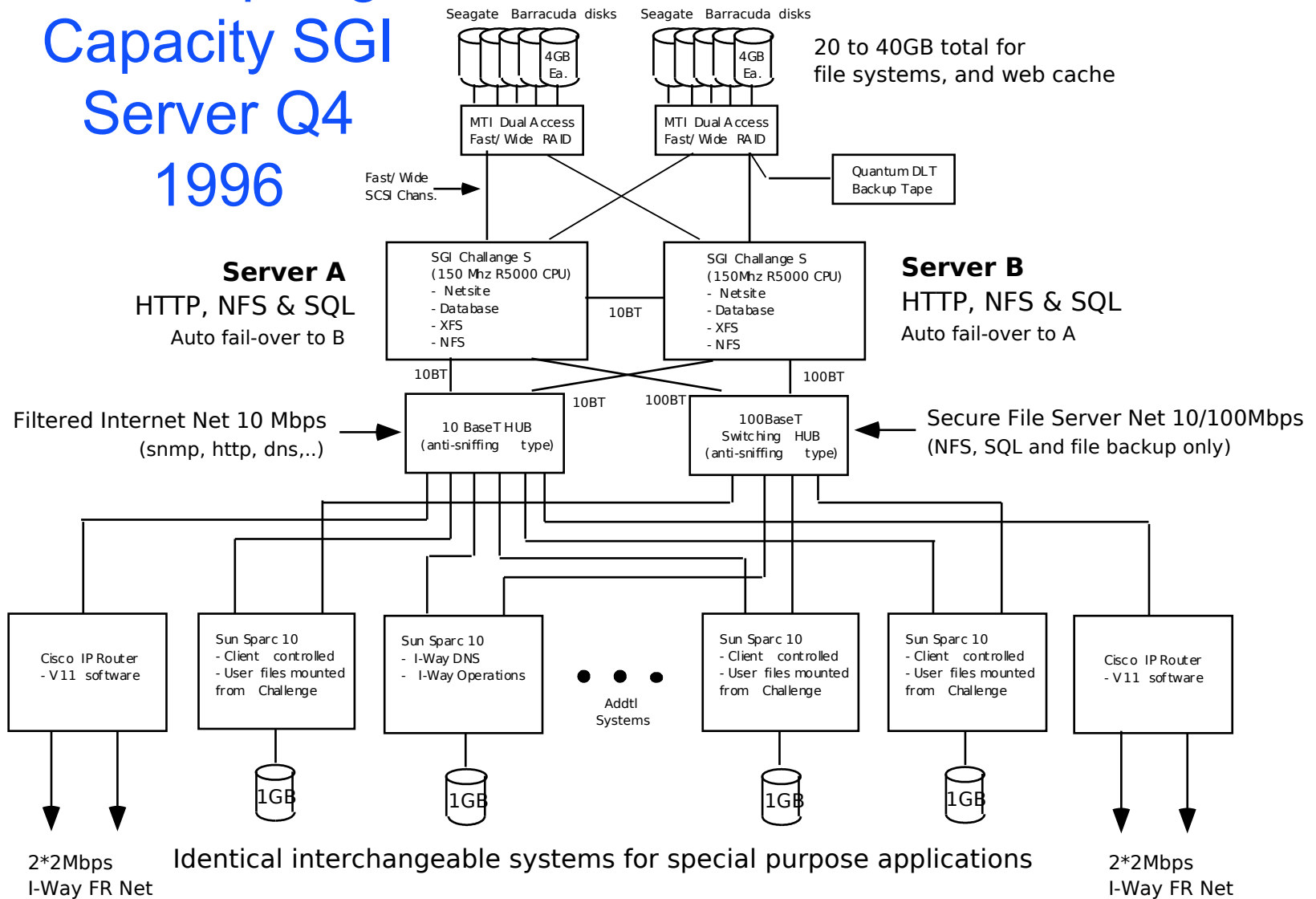


Non-Stop SGI Server

Q3 1996



Non-Stop High Capacity SGI Server Q4 1996



Development Plan

- **1st 1/2 1996 accomplishments:**
 - Upgraded connections to Internet
 - U.S. via Sprint @256K and MFS @512K
 - Europe via EBONE @512K
 - France via MAE Paris and FGIX @2Mbps
 - Added support for TRANSPAC Kioskmicro service
 - SGI web server installed
 - New POPs at Sophia and Bordeaux



Development Plan

- **On track for Q3 1996:**
 - 2 Mb connection to MAE East
 - 3 new POPs: Lille, Lyon and Marseilles (currently under development)



Development Plan

- **Q4 1996:**
 - 4 Mb connection to Internet, including a direct ATM/FR connection to MAE-EAST and MAE-WEST
 - 3 new POPs (potentially: Strasbourg, Nantes)
 - 2 Mb National Backbone?



Phase One of U.S. Bandwidth



Phase Two: Asymmetric



Future development:

- Local access by-pass
(Spreadspectrum, cable modems,
ADSL)
- Web caching to reduce backbone and
transatlantic bandwidth cost



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