

# ***Content Billing: The Next Phase of Data Services Pricing***

Alan Huang

Cisco Systems, Inc.

[ahuang@cisco.com](mailto:ahuang@cisco.com)/408-525-3769

## **Agenda**

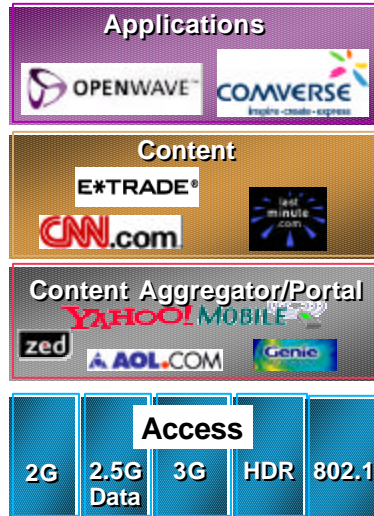
- **Monetize Mobile Data Services**
- **Operator Return on Investment**
- **Implementing content billing – a Network Infrastructure View**

# Mobile Business Model Evolution

Cisco.com

Moving Up the Value Chain

- Includes messaging, gaming, location-based services, videoconferencing
- Includes stock quotes, news, music, video on demand
- Services resold through various partners
- Provides basic access and voice
  - *Saturated markets*
  - *Margins declining*



NWEC 2002

3

# IP Billing Mechanisms

Cisco.com

	Pros	Cons
<b>Flat Fee</b>	<ul style="list-style-type: none"> <li>Easy to understand</li> <li>Little impact on system performance</li> <li>Generates predictable revenues</li> <li>Low investment</li> </ul>	<ul style="list-style-type: none"> <li>Rule: 80 percent of resources used by 20 percent of customers</li> <li>Heavy users subsidized by regular users</li> <li>Cannot profit from power users</li> <li>Stimulate demand but not profit or effective use of spectrum</li> </ul>

NWEC 2002

4

# IP Billing Mechanisms

Cisco.com

	Pros	Cons
<b>Usage-based</b>	<p>Allows for rating of differentiated services based on volume or time</p> <p>Users pay only for what they use</p> <p>Leads to higher margins</p>	<p>Consumers do not understand charging for bytes or packets</p> <p>Bytes or packets do not reflect value of service</p>

NWEC 2002

5

# IP Billing Mechanisms

Cisco.com

	Pros	Cons
<b>Content-based</b>	<p>Account for the varying costs of content development</p> <p>Allow for charging based on consumers perception of the service value including timely or location-specific delivery</p> <p>Lead to higher margins and discriminative use of spectrum</p> <p>True retail model allowing consumers to retain cost control</p>	<p>Different paradigm for user to comprehend</p> <p>May be viewed as complex compared to flat fee</p>

NWEC 2002

6

## Comparative Costs Based on Flat Fee

Cisco.com

- Flat fees for unlimited usage range from \$10 to \$25 per month (average \$20 per month)

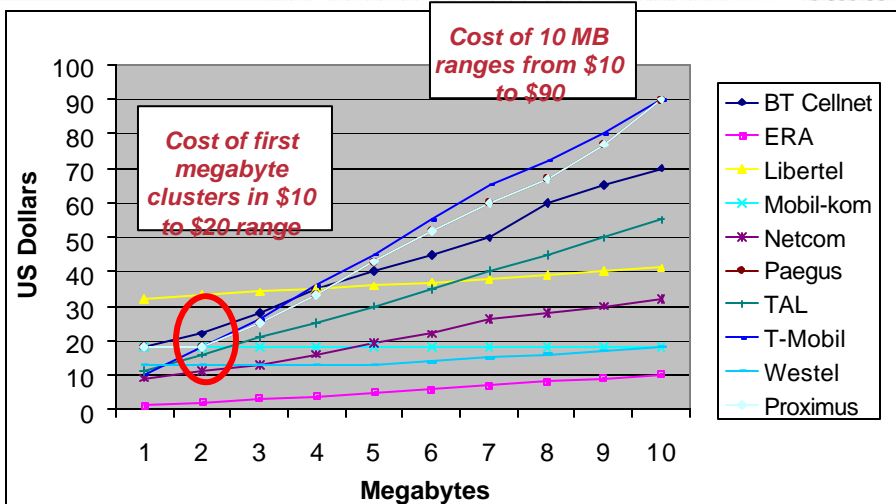
Source: Chorleywood Consulting, December 2001

NWEC 2002

7

## Cumulative Cost of 10 MB GPRS Data

Cisco.com



Source: Chorleywood Consulting

NWEC 2002

8

# Monthly Transaction Summary: Page 1

Cisco.com

	User activity per month	Bytes	Subscription per month	Type of Charge			Total price to end user	Total price to advertiser	Allocation to Operator	Allocation to Partner	Revenue to Operator	Revenue to Partner
				Retail \$	Charge per Event	Per KB Charge						
1	Monthly network fee	-	\$5				\$5.00		100%	0%	\$5.00	\$0.00
2	Download of MP3 file #1	3,000,000			\$1	\$0.0010	\$4.00		30%	70%	\$1.20	\$2.80
3	MP3 file #2 Premium	2,500,000			\$2	\$0.0015	\$5.75		30%	70%	\$1.73	\$4.03
4	Download of MP3 file #1	3,500,000			\$1	\$0.0010	\$4.50		30%	70%	\$1.35	\$3.15
5	Check e-mail	300,000	Free as part of subscription		-	-	\$0.00		100%	0%	\$0.00	\$0.00
6	Check stock quotes	400,000	\$2		-	\$0.001	\$2.40		50%	50%	\$1.20	\$1.20
7	Check e-mail	1,000,000	Free as part of subscription		-	-	\$0.00		100%	0%	\$0.00	\$0.00
8	Advertiser pushes entertainment ad	200,000	Recurring ad-space fee \$2			\$0.0017		\$2.34	100%	0%	\$2.34	\$0.00

NWEC 2002

9

# Monthly Transaction Summary: Page 2

Cisco.com

	User activity per month	Bytes	Subscription per month	Type of Charge			Total price to end user	Total price to advertiser	Allocation to Operator	Allocation to Partner	Revenue to Operator	Revenue to Partner
				Retail \$	Charge per Event	Per KB Charge						
9	Browse www.hikingboots.com (partner site)	1,000,000	Free as part of subscription		No charge if partner site	\$0.0017	\$1.70		50%	50%	\$0.85	\$0.85
10	Purchase of hiking boots (partner site)	100,000		\$112.00			\$112.00		9%	91%	\$10.08	\$101.92
11	Browse www.flowers.com (not a partner)	1,000,000			\$3	\$0.0025	\$5.50		100%	0%	\$5.50	\$0.00
12	Purchase of flowers from www.flowers.com (not a partner)	100,000		\$80.00			\$80.00		0%	100%	\$0.00	\$80.00
13	Advertiser pushes computer ad	100,000	Recurring ad-space fee \$2			\$0.0017		\$2.17	100%	0%	\$2.17	\$0.00
14	Browse weather.com (partner site)	200,000			\$2	access for event charge	\$2		60%	40%	\$1.20	\$0.80
	<b>TOTAL</b>	<b>13.4M</b>					<b>\$222.85</b>	<b>\$5</b>			<b>\$32.62</b>	<b>\$194.75</b>

**Note:** Total cost to End User without MP3 or retail purchases = \$20.60

NWEC 2002

10

# Summary of Monthly Transactions

Cisco.com

## Content Billing

	<i>User Cost =</i>	<i>Operator Revenues =</i>
	<b>\$20.60</b>	<b>\$32.62 from network, retail and advertising</b>
<b>Average Flat Fee per month = \$20 per subscriber</b>	Perceived value to user without increase over Flat Fee	40% increase over Flat Fee revenues, without increasing cost to user
<b>Average Volume-based tariff per month = \$30 to \$40 per subscriber</b>	User spends less than Volume-based tariffs	Comparable to Volume-based tariffs, without increasing costs to user

NWEC 2002

11

# Assumptions: Costs and Delta Revenues

Cisco.com

<b>Costs for 25,000 to 1,000,000 Subscribers</b>	
Network elements required to record content information	17% of total
IP billing/rating engine	55% of total
Mediation platform	12% of total
Systems implementation/integration	16% of total
<b>Total Costs</b>	<b>\$2.1M - \$8.4M</b>

<b>Yearly Difference in Revenues</b>	
Revenues @ \$20 monthly Flat Fee	\$ 20.00
Revenues @ \$32.62 with Content-Billing	\$ 32.62
Delta per month per subscriber	\$ 12.62
<b>Difference per Year per subscriber</b>	<b>\$ 151.44</b>

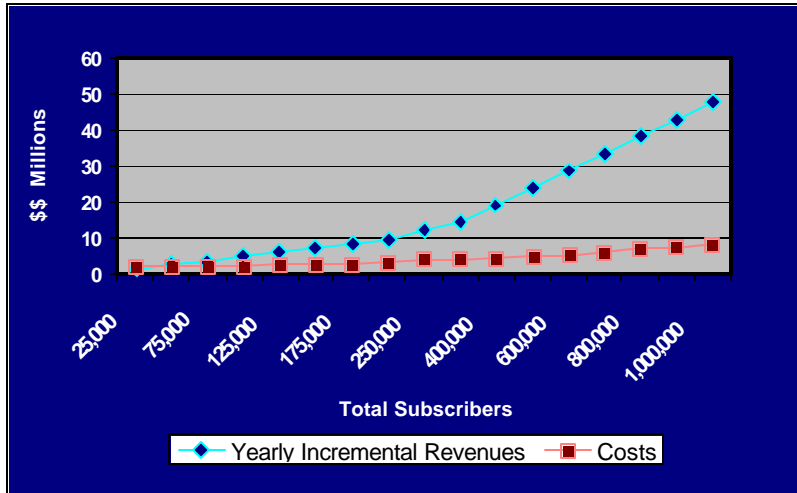
**Note:** Costs used are very conservative and represent the average to high end of possible prices for each component.

NWEC 2002

12

# Incremental Revenues with Content Billing and Costs

Cisco.com

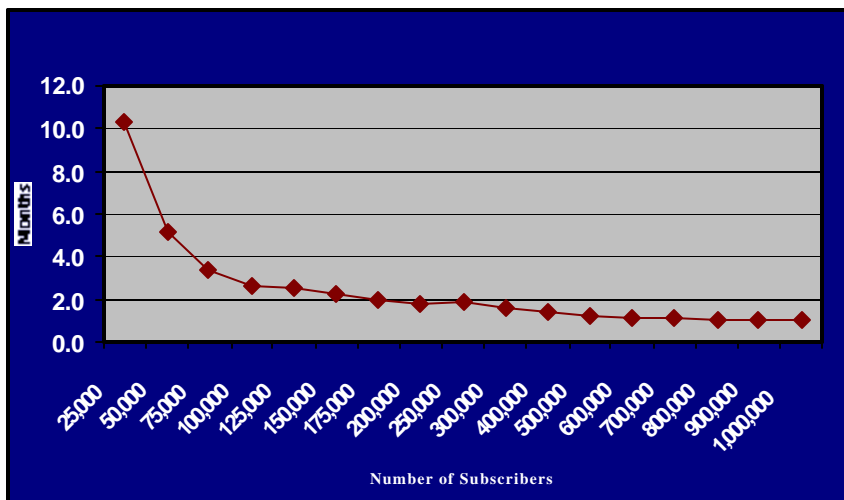


NWEC 2002

13

# Payback in Months for Content Billing Solution

Cisco.com



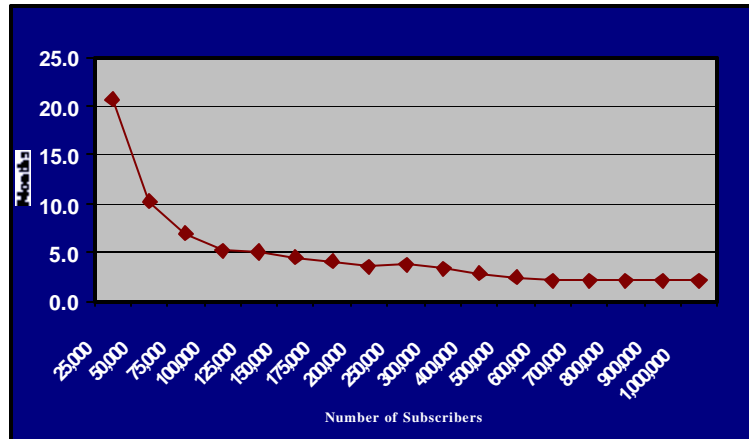
NWEC 2002

14

## Too good to be true???

Cisco.com

Revenue increase of 20% per subscriber still leads to payback in less than one year with 50,000 or more subscribers



NWEC 2002

15

## Implement Content Billing Right

Cisco.com

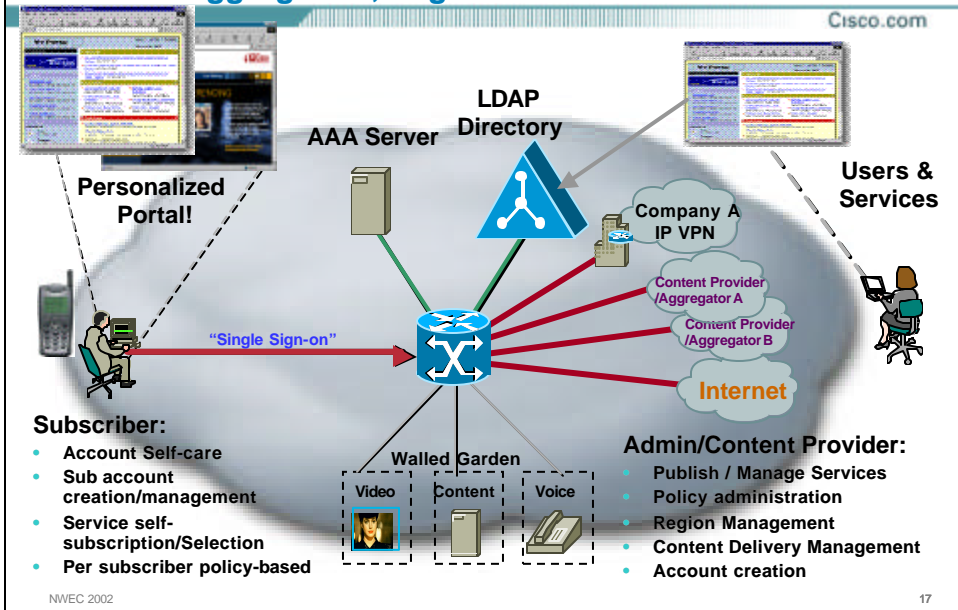
- **Encourage higher value and higher margin services**
  - Allow content providers to charge for services over operator's billing platform
  - Allow flexible revenue sharing model to keep content providers profitable (e.g share revenue derived from traffic volume)
- **Increase breadth and diversity of services**
  - Operator open content development and aggregation to broader range of providers
  - Service segmentation and sub-branding to channel content towards specific user community
- **Pay-as-you-go model to ease the initial scare of the mobile data services complexity**

NWEC 2002

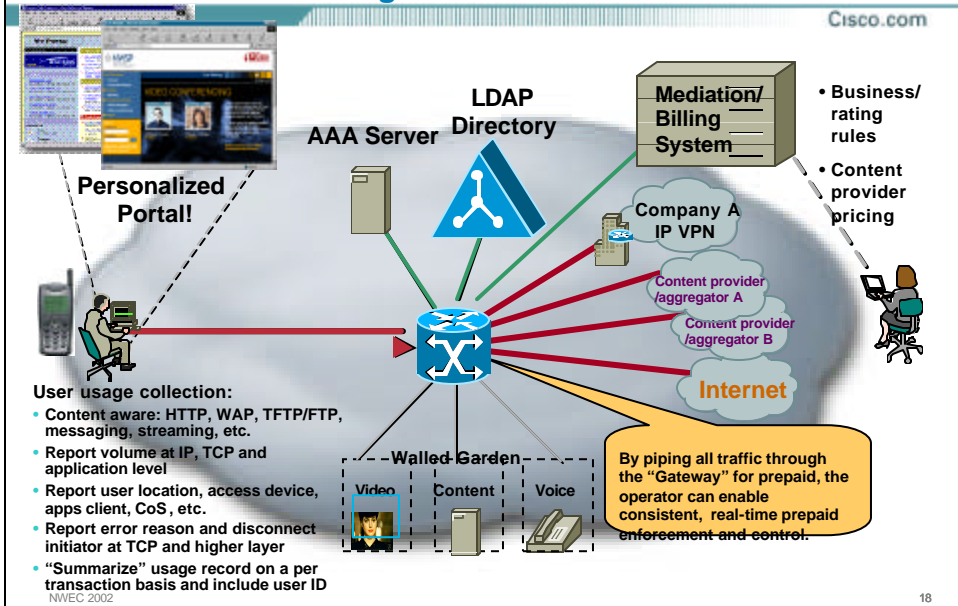
16



# Mobile Data Services "Gateway" – Content Aggregation, Segmentation & Access



# Mobile Data Services "Gateway" – Network/Content Usage Collection & Enforcement



## Summary

Cisco.com

- **Value and revenues are driving content-based billing**
- **Flat-rate and volume-based billing will give way to advantages of content billing**
- **Formula for success is derived from detection and delivery of content information**
- **Payback for content-billing solution is less than one half year**
- **Mobile data services “Gateway” is key to control aggregation, segmentation and access**
- **Mobile data services “Gateway” is key to deciphering and enforcing content usage**