



Utilities as ISPs: A Core Competencies Model

- U.S. deployments in many states, including:
 - Missouri - Virginia
 - North Carolina - Pennsylvania
 - Alabama - New York
- **First Canadian deployment announced in February '04 by PUC**
- Regulatory efforts in the U.S. and Canada are both moving forward



Table 3.5: Total Telecommunications Services Revenues by type of Market Participant (\$ millions)

	1998	1999	2000	2001	2002
Incumbent Carriers					
Large	20,502.1	20,827.5	22,760.2	24,829.7	23,960.8
Small	249.7	254.6	278.4	281.9	319.5
Subtotal	20751.8	21080.3	23038.6	25111.6	24280.3
Competitors					
Facilities based	2652.1	2995.4	3562.7	3739.8	3660.0
Resellers	93.6	348.5	558.0	647.2	1191.6
Cable providers	1385.2	1617.2	2037.7	2448.4	3009.2
Utility Telcos	0.0	0.1	5.6	31.2	104.5
Subtotal	4130.9	4961.2	6164.0	6866.6	7965.3
Total	24,882.7	26,041.5	29,202.6	31,978.2	32,245.6

Source: CRTC Data Collection



- Need to connect SCADA systems with fibre drove many utilities to consider re-selling bandwidth
- Deregulation in Ontario and Alberta = new business development culture and opportunities
- Demand for broadband in Canada has been steadily growing since the late '90's



- Emergence of stable BPL solutions + government price-capping on energy encourages new UTelco offerings
- New government reporting requirements oblige utilities to increase efficiencies, grid-monitoring and provide demand-side opportunities for customers
- Interest in providing Wi-Fi hotspots as a result of deploying Power Wi-Fi solutions



Wireless revenue to grow to \$10.8 billion in Canada by 2007

IDC Canada

Key challenge is to exploit the country's relatively low penetration

IDC Canada

Total spending in the U.S. on wireless communications will grow to \$144.7 billion in 2004

Telecommunications Industry Association

Spending on Wifi services is expected to increase from \$48 million in 2004 to \$270 million in 2007

Telecommunications Industry Association



Canadian Penetration Rates per 100 Households: Wireline Access Lines & Wireless

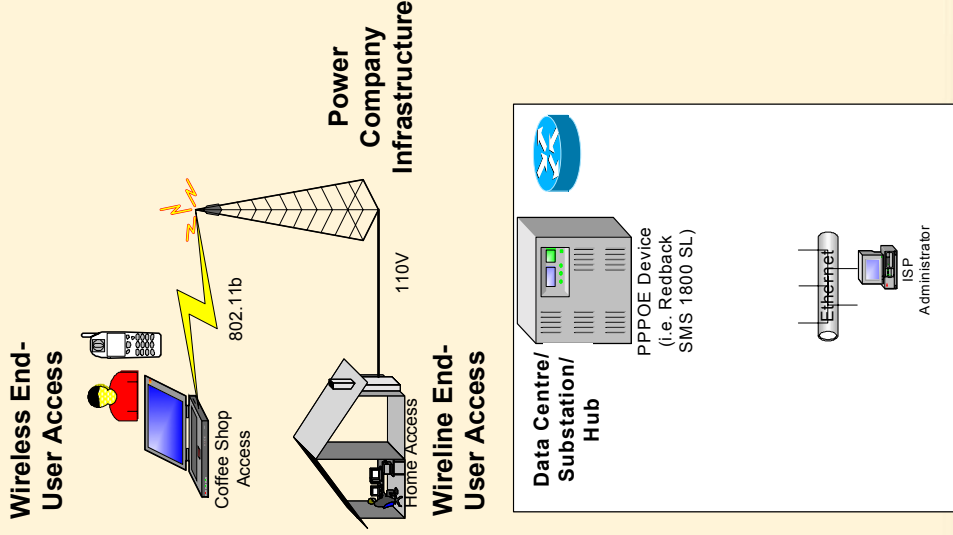
Year	Wireline	Wireless	Wireline and/or Wireless
1997	98.2	21.9	98.4
1998	98.1	26.2	98.5
1999	98.2	31.9	98.7
2000	97.7	41.8	98.8
2001	97.4	47.6	98.6

Source: Statistics Canada



Vendor selection (Amperion):	May 2003
High-level site surveys:	July/August 2003
Business case completion:	October 2003
Trial site selection/design:	November 2003
Equipment ordered:	December 2003
Installation:	January 2004
Dedicated BPL staffing:	March 2004
ISP back office (IP Applications):	March 2004
Market trial:	May/June 2004





Injector

Receives wireless signal from fibre node/WAP and launches BPL signal

Repeater

Receives BPL signal, decodes, reconstitutes, xmits BPL to next repeater, also xmt/rcv wireless signal to/from users

Extractor

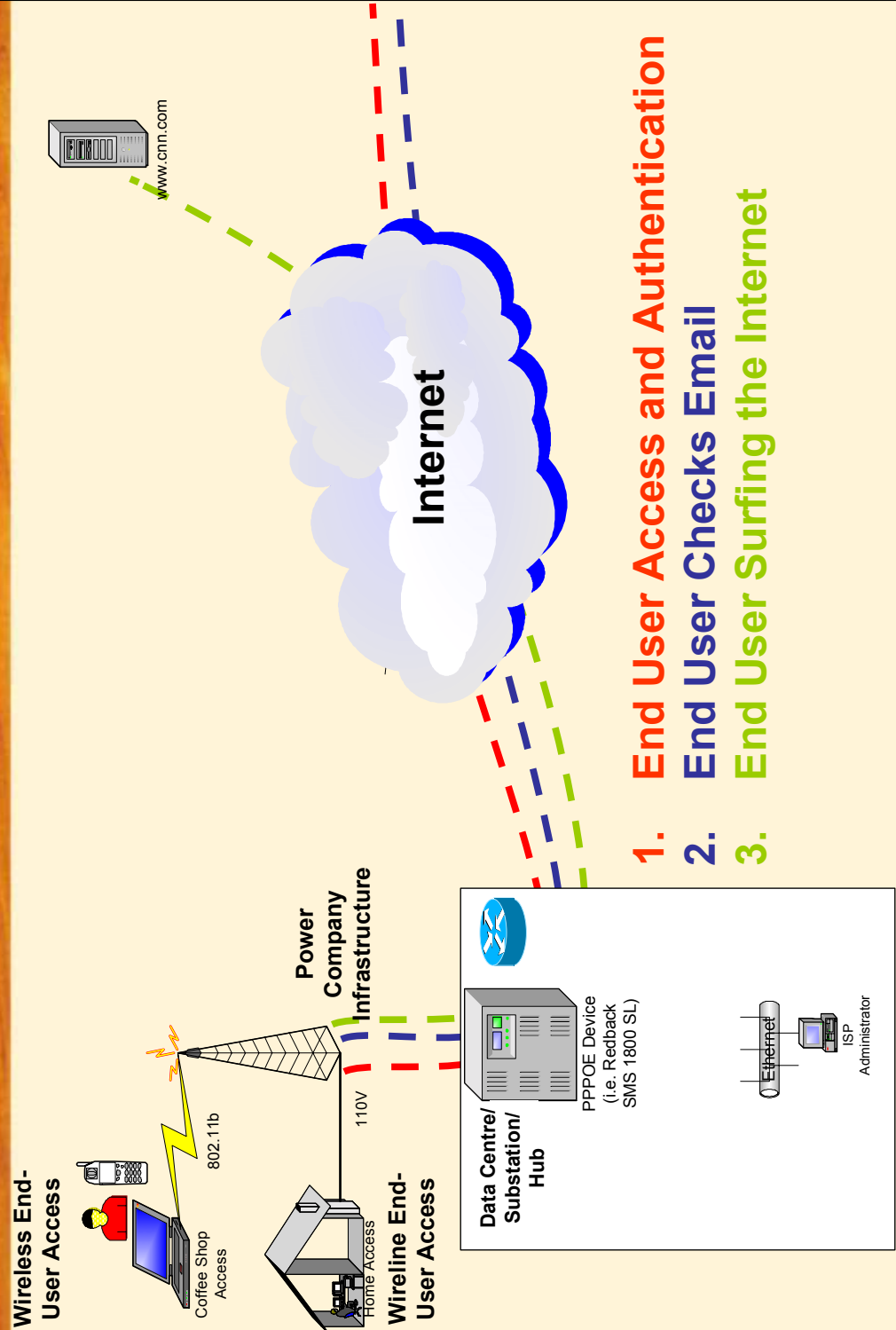
Receives BPL signal; xmt/rcv wireless signal to/from users

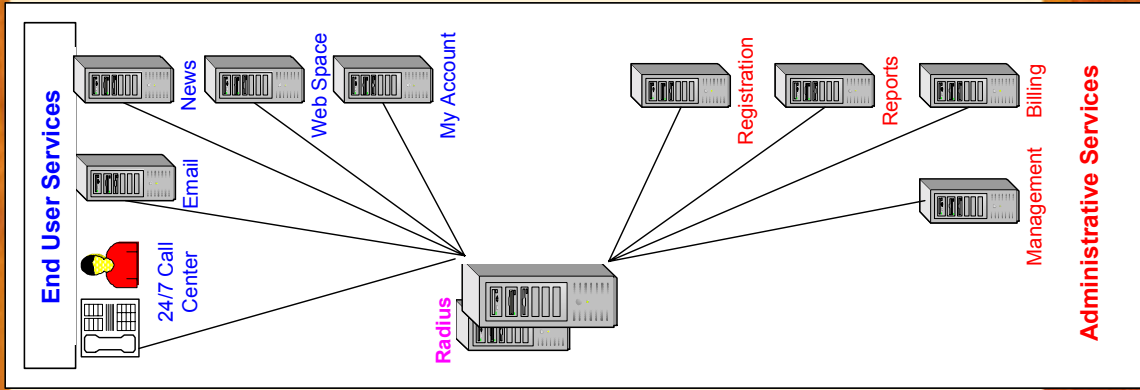
CDP Device

Can be a wireless card or bridge



How Does it Work?





Call Center		End User Services			
		Registration	Account Records	Reporting	Email / News
Account Management Tool		Billing	Web Space	Value Add Services i.e. Content Filtering / Virus Scanning	
		Management			
Administrative Services					



- How do I ensure all end users are billed accurately?
- How do I grow my business and expand service offerings, at minimum cost and risk?
- How do I keep my prices competitive?
- How do I minimize churn?
- How do I provide adequate technical support to keep my customers happy?
- How do I stop having to hire, train and manage service staff?
- How do I better market my services?



In-House, You own Equipment, capital and operational costs

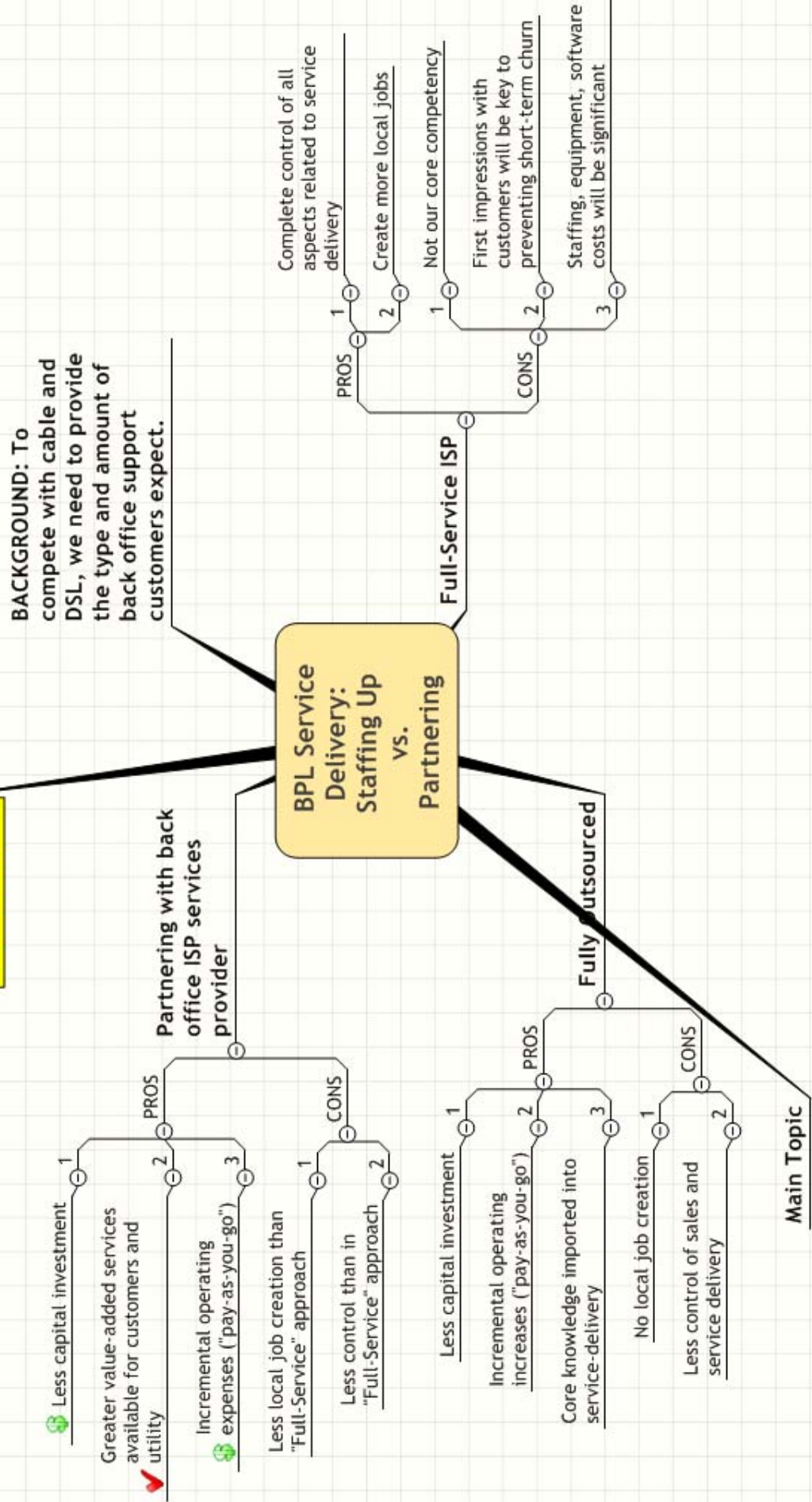
RESOURCES	Small 5,000 users	Enterprise 250,000 users	Cost/ User/Month		OUT- SOURCE
			Small 5,000	Enterprise 250,000	
Facilities	\$34,025	\$1,689,400	\$0.19	\$0.19	✓
Software	\$14,500	\$6,454,435	\$0.24	\$2.15	✓
System Integration	\$23,333.33	\$160,000	\$0.39	\$0.05	✓
IT Resource Utilization	\$0.00	\$264,000	\$0.00	\$0.09	✓
On-going Expenses	\$131,701.25	\$1,169,470	\$2.20	\$0.39	✓
Total	\$203,559.58	\$9,737,305	\$3.01	\$2.87	
		Min. % Savings by Outsourcing			34% to 30%
		Max % Savings by Outsourcing			58% to 56%



- **Access**
 - Moving from narrowband to broadband
 - Ambiguous access
 - Wireless access
 - Broadband access
 - Dial access
- **Application Services**
 - Security
 - Virus Scanning
 - Desktop Firewalls
 - VOIP
 - Premium Desktop Support
 - Ability to provide and manage new services easily



Decision: Partner



Pros:

- Focus on core competency
- Reduce capital expenditures and operating costs
- Generate new revenues and minimize risk
- Pay as you go
- Facilitate flexible growth
- Scale operations with minimal staff, cost and process burdens
- Economies of scale

Cons:

- Perception of lost control
- Finding the right partner
- Service Level Agreements
- Integration with Utility billing systems





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Questions & Answers

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