Business model for Public Networks




Business model for Public Networks

What is "Public Networks"?

Public Network is a common resource for broadband communication that all parts of the society have equal access to, fully or partly government supported.

Example:

Swedish national IT infrastructure program **"Broadband to all"** that states that all citizens in Sweden shall have broadband access before 2005.

Government financing is 0 – 84% depending on geographical area with a mean value of 39%. Budget is 900 M€ excluding local access (not supported).

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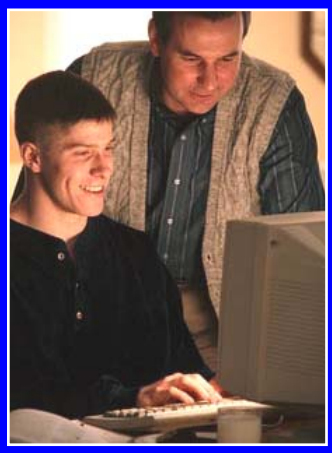
Cooperation

Public Networks is based on that all parts of the society cooperates in any given geographical area:

- Government administration
- County & Municipales administration
- Schools & universities
- Hospitals
- Real estate owners
- Enterprises
- Service providers
- Telecom operators

This cooperation creates high focus for success in financing, building and implementing next generation of high speed communication.



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Operator neutral management

Cooperation in Public Networks is not possible without very clear and strong rules for how business is conducted.

Example:

Traditional business model for telecom market is usually based on monopolistic business, where a few market players have complete control over all levels of refinement, protected by

- Legislation & operator licenses
- "Right of way"
- Financial & political power

This model limits cooperation and fast development of competitive services.

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Operator neutral management

Good environment for cooperation is gained by neutral management, with the following rules for conduct of business:

- Equal terms for every market player
- No disloyal competition
- All levels of refinement

Shared investments and resources gain quality and profits for all market players that use public networks.

This creates **high focus on content**, since all market players have equal terms for access to customers and production costs.

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Business modell is critical for:

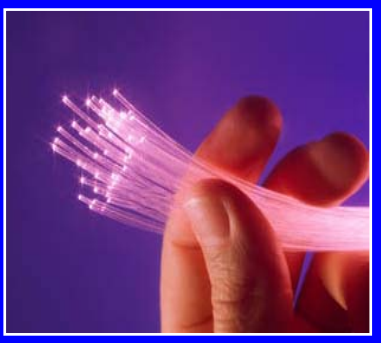
- Long time survival
- Investment capability
- Values for users
- Political & market acceptance

Key to success in any given geo-graphical area is ability to solve customer needs for reasonable costs with profits that secure financial stability.

Business model for Public Networks

Components in the business model:

1. Identification of user needs & values
2. Existing assets & optimizations
3. Market strategy
4. Needed investments & running costs
5. Price model
6. Political & market support



Following pages is a theoretical example of how this could be implemented in Sri Lanka, based on research from ongoing knowledge transfer program founded by SIDA.

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Short facts on Sri Lanka:

- Population 20 million
- Area 65.000 square km
- Population density 308/sq km
- Gross National Income $830 pc
- Literacy rate 92%

Telecom facts:

- Int. Internet 12 Mbps (2002)
- Cost 50 times higher then Europe!
- 0,9 million fixed & mobile phones

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User needs & values

Total market value for telekom is estimated to $300 MUSD 2002.

Datakom & Internet is estimated to 15%.

Basic feeling is that needs are 20 times higher then affordable capacity today.

80% of possible users is not connected at all!

Estimated Datakom & Internet market		Today			
		Capacity	Per month	Total cost	Needs
Public sector:					
60	Government administration	2 Mbps	$6 400	$384 000	10 Mbps
40	Hospitals	0,5 Mbps	$1 600	$64 000	10 Mbps
20	Universities	2 Mbps	$6 400	$128 000	10 Mbps
1 500	High Schools & Basic Schools	64 kbps	$200	$300 000	2 Mbps
7 500	Not connected (82%)		$0	$0	2 Mbps
9 120	**SUM**			**$876 000**	**23%**
Private sector:					
200	Large enterprises	512 kbps	$5 800	$1 160 000	10 Mbps
80	IT enterprises	256 kbps	$2 800	$224 000	10 Mbps
120	Construction engineering	128 kbps	$1 400	$168 000	10 Mbps
600	Trading, accounting, hotels etc.	64 kbps	$750	$450 000	2 Mbps
1 200	Banks with branch offices	64 kbps	$750	$900 000	2 Mbps
7 600	Not connected (78%)		$0	$0	2 Mbps
9 800	**SUM**			**$2 902 000**	**77%**
	Total SUM per month			**$3 778 000**	**100%**

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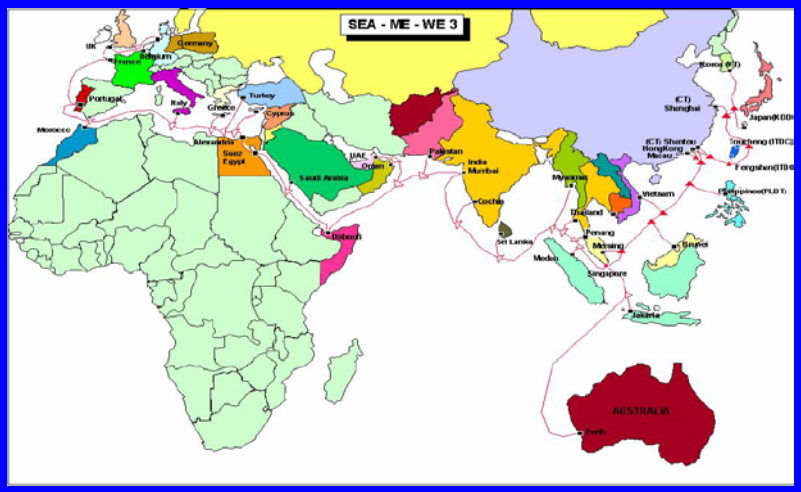
Existing assets & optimizations – Sea Cable



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Existing assets & optimizations – Radio Towers

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Existing assets & optimizations – Micro wave Links

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Existing assets & optimizations – Fiber Cables

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Existing assets & optimizations – High tension Lines

- 220kV Line
- 132kV under Ground Line
- 132kV Line
- 132Kv generation station
- 220kV/132kV sub station
- Hydro power station
- Thermal power station

- 2001
- 2002
- 2004
- 2008

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Existing assets & optimizations – Rail road lines

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Strategy for Phase 1

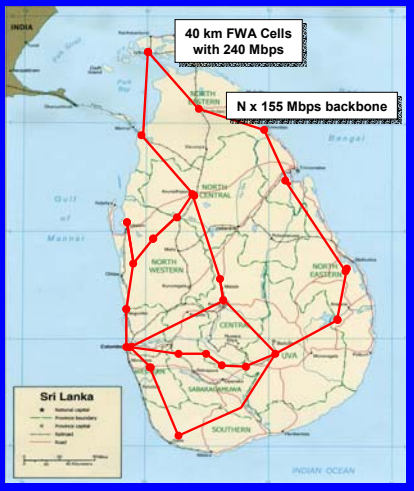
Lets assume that we raise public funding for building broadband to:

- 40 Hospitals at 10 Mbps
- 20 Universities at 10 Mbps
- 300 High Schools at 2 Mbps

We accept 10 times overbooking national and 50 times international (present level). Need for non over-booked international Internet is 45 Mbps (T3).

50% capacity is reserved for private sector, to get income that covers running costs.

Goal is 70% market coverage within 6 months of deployment.



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Pcs	Sri Lanka Public Network - Need of investments & running costs - Phase 1	Investment		Maintainance/Year	
		Each	SUM	Each	SUM
4	New Radio Towers with sites	$70 000	$280 000	$7 000	$28 000
20	Existing Radio Towers with sites	$4 000	$80 000	$12 500	$250 000
15	FWA Base station 4 x 60 Mbps	$190 000	$2 850 000	$28 500	$427 500
900	CPE FE 2 - 10 Mbps	$2 800	$2 520 000	$280	$252 000
30	Microwave Link 155 Mbps (2x)	$80 000	$2 400 000	$12 000	$360 000
20	Router 3 Gbps	$22 000	$440 000	$3 300	$66 000
62	155 Mbps Interface	$8 000	$496 000	$1 200	$74 400
2	Datacenter with management	$450 000	$900 000	$67 500	$135 000
2	Satelite stations 45 Mbps	$800 000	$1 600 000	$120 000	$240 000
1	International bandwith 45 Mbps	$50 000	$50 000	$1 080 000	$1 080 000
1	Installation costs	12%	$1 393 920	$0	$0
	SUM		**$13 009 920**		**$2 912 900**
	Public subsidises	50%	-$6 504 960		
	3 years depriciation		$6 504 960	**Per year**	$2 497 905
	Yearly profit for solid financing			12%	$737 837
	Yearly need of income for 3 years				**$6 148 642**
				Per month	**$512 387**

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	Price model - Phase 1	New prices		Total cost
		Capacity	Per month	
40	Hospitals	10 Mbps	$1 600	$64 000
20	Universities	10 Mbps	$1 600	$32 000
300	High Schools	2 Mbps	$190	$57 000
360	**SUM Public sector**			**$153 000**
60	Large enterprises	10 Mbps	$2 800	$168 000
40	IT enterprices	10 Mbps	$2 800	$112 000
120	Construction, trading etc.	2 Mbps	$750	$90 000
300	Banks with branch offices	2 Mbps	$750	$225 000
520	**SUM Private sector**			**$595 000**
	Sales profit to content providers	30%		-$224 400
	Total SUM per month			**$523 600**

1. Same prices for 20 times better bandwith
2. Total budget less than 15% of present market
3. Local market players have a good share of income

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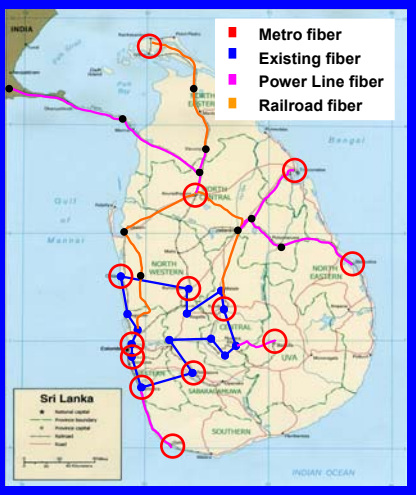
Strategy for Phase 2

1. Optimized use of unused existing fiber, fibers in new power lines and railroad tracks.
2. Reuse of Phase 1 for redundancy and coverage in rural areas.
3. **European levels** of capacity and amount of connected citizens.
4. At least double total amount of connected enterprises.
5. Promote of content development based on centralized servers.
6. Deployment time 2 – 3 years (2006)



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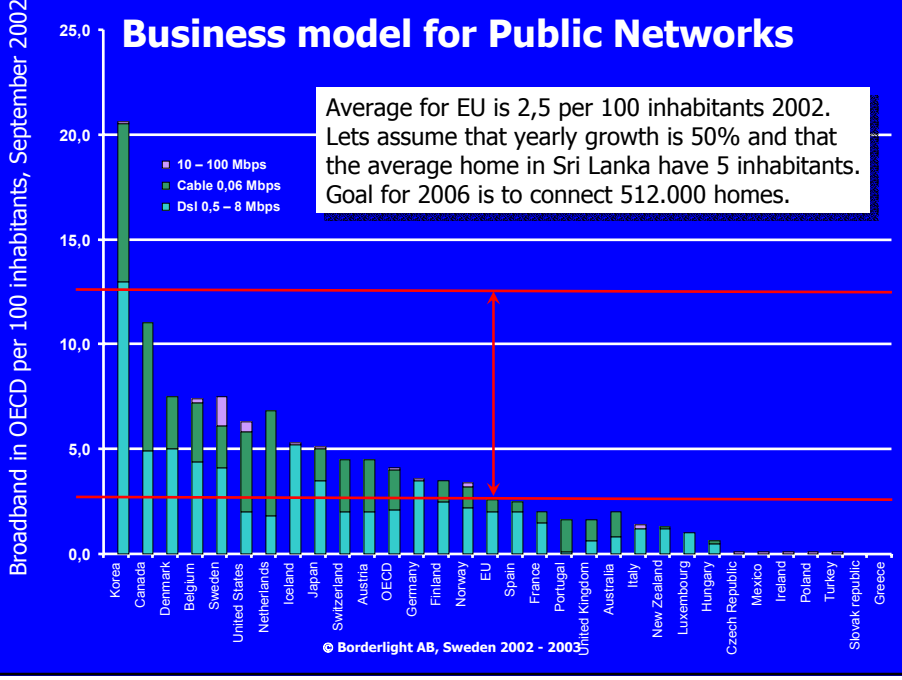
Average for EU is 2,5 per 100 inhabitants 2002. Lets assume that yearly growth is 50% and that the average home in Sri Lanka have 5 inhabitants. Goal for 2006 is to connect 512.000 homes.



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Home PC

Goals for phase 2 can not be reached without complementary projects to increase number of Home PC:s.

We strongly recommend the Swedish model based on:

- Employer (private or public) finansing
- 100% tax reduction
- Cost is deducted on salury 36 months

Monthly cost for Home PC with printer & scanner etc. is $56 USD.

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Pcs	Sri Lanka Public Network - Need of investments & running costs - Phase 2	Investment		Maintainance/Year	
		Each	SUM	Each	SUM
700	km Rent of existing fiber (15 year IRU)	$2 000	$1 400 000	$100	$70 000
1 290	km Fiber in new power lines & railroad	$15 000	$19 350 000	$750	$967 500
600	km Metro Fiber	$45 000	$27 000 000	$2 250	$1 350 000
400	Tecnical sites	$45 000	$18 000 000	$6 750	$2 700 000
48	8 x 2,5 Gbps CWDM Terminal	$45 000	$2 160 000	$6 750	$324 000
8	64 x GE Switch/Router	$180 000	$1 440 000	$27 000	$216 000
200	10 x GE Switch/Router	$9 900	$1 980 000	$1 485	$297 000
3 800	2 x GE + 24 x FE Switch/Router	$4 900	$18 620 000	$735	$2 793 000
45 000	24 x FE Switch	$900	$40 500 000	$135	$6 075 000
520 000	Customer L3 CPE with 2 x IP phone	$200	$104 000 000	$100	$52 000 000
8	Datacenter with content servers	$800 000	$6 400 000	$120 000	$960 000
1	Reuse of Phase 1	$600 000	$600 000	$1 800 000	$1 800 000
5	International bandwith 1 Gbps	$50 000	$250 000	$1 800 000	$9 000 000
1	Installation costs	12%	$29 004 000	$0	$0
	SUM		**$270 704 000**		**$78 552 500**
	Public subsidises	50%	-$135 352 000		
	5 years depriciation		$135 352 000	**Per year**	$35 732 928
	Yearly profit for solid financing			12%	$15 584 377
	Yearly need of income for 5 years				**$129 869 805**
				Per month	**$10 822 484**

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Price model - Phase 2		New prices		
		Capacity	Per month	Total cost
120	Hospitals, Universities & Government	100 Mbps	$1 200	$144 000
600	High Schools	10 Mbps	$750	$450 000
3 000	Basic Schools	2 Mbps	$190	$570 000
3 720	**SUM Public sector**			**$1 164 000**
300	Large enterprises & IT enterprises	100 Mbps	$1 200	$360 000
1 200	Construction, trading, banks etc.	10 Mbps	$750	$900 000
3 000	Small & Midsize Enterprises	2 Mbps	$190	$570 000
4 500	**SUM Private sector**			**$1 830 000**
512 000	**Private homes (12%)**	**2-10 Mbps**	**$30**	**$15 360 000**
	Sales profit to content providers	30%		-$5 506 200
	Total SUM per month			**$12 847 800**

1. Best european levels of prices for local access (2003)
2. Working population can afford broadband ($30/Month)
3. >40% of public & private sector connected

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Political & market support

Old telecom monopol owners is usually hostile to development of Public Networks. They are able of creating trouble with use of their gigantic financial strength and political influence.

Strong and dedicated political support from government is usually very important to balance pressure from old monopol owners.

New operators and service providers is usually positive when they understands the benefits of shared investments and resources in Public Networks.

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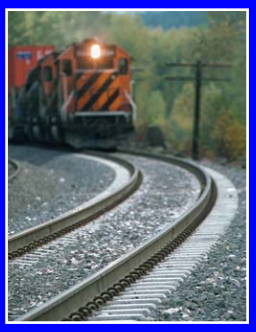
Conclusion ...

High speed communication have the same importance for success in knowledge society as railroads had for the industrial society.



It's not possible to compete without high speed transportation at affordable costs.

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Questions?

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