

Advanced Interactive Inc.

**Providing
e-Service Solutions to
Rural Asia**

[using an installation in India as an example]

Technology Paper prepared

by

Karim Lakhani

President and C.E.O

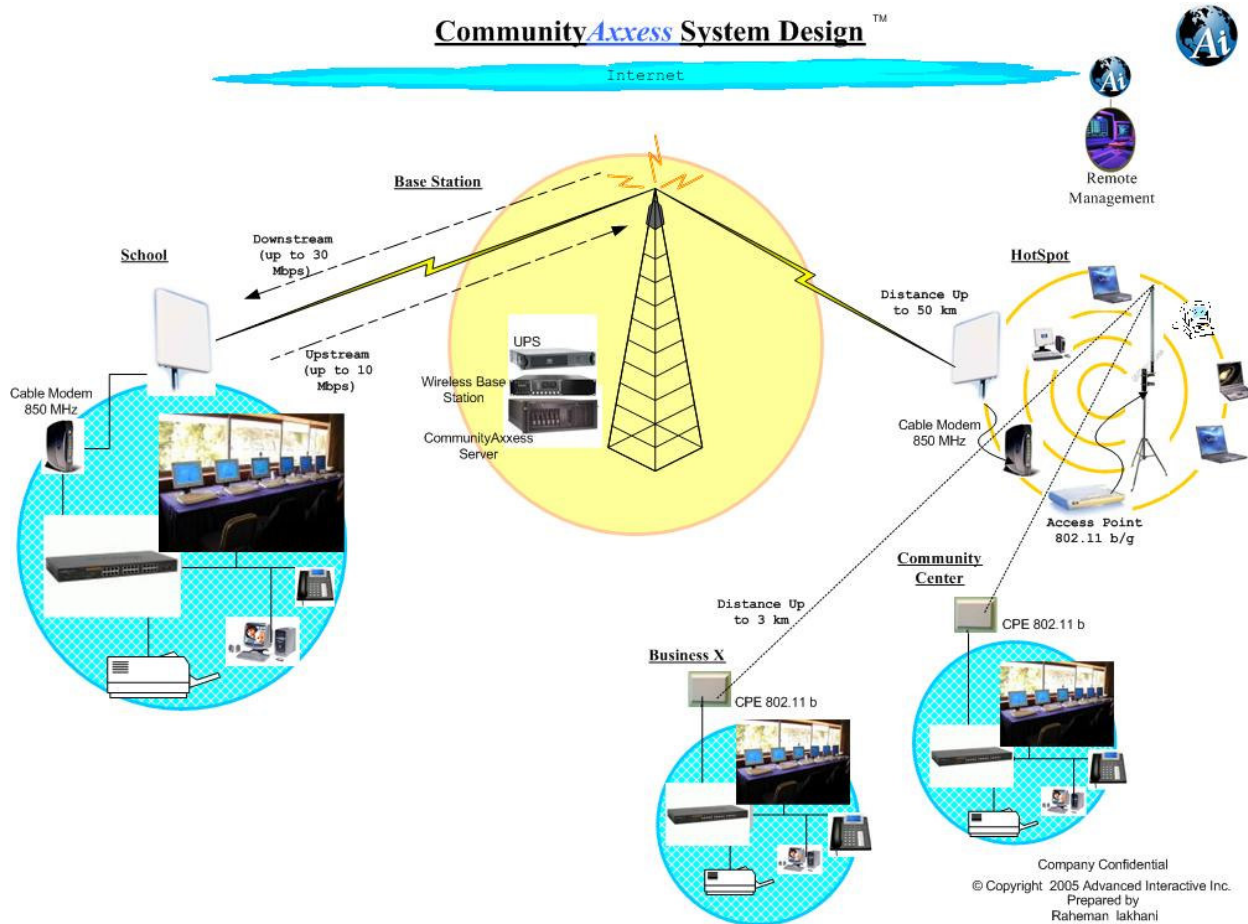
Advanced Interactive Inc.

February 17, 2006



#312 – 8988 Fraserton Court, Burnaby, V5J 5H8 British Columbia, Canada

CommunityAxxess System Design™



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Introduction:

Asia has a rural population of over 1.5 billion people in over 1,000,000 villages with an average population of approximately 10,000 people per village. The per capita income is less than \$200 US. Key factors that can make significant difference in the life of such people are to provide them the following services:

- ✓ Health
- ✓ Education
- ✓ Improved purchasing power

On the other hand urban regions have made significant progress in the last 10 years where the middle class is considered pretty well-off by Western standards. A variety of compelling services are now available to urbanites. But these services have not been available to most of rural Asia. There is a huge Digital Divide between Urban and Rural Asia. Governments are concerned about the divide, but are slow to close the gaps. A huge number of these services can be delivered through Information and Communications Technology (ICT) Services such as Distance education, Telemedicine, Tele-health, phone services, e-mail services, file services, e-commerce services, etc. It has been commonly recognized that to address the needs of rural Asia new and innovative cost effective solutions will have to be found and not just replicated solutions that have worked in urban communities where there are huge densities are there is an existing infrastructure in place on which to build. In rural settings there is little in the way of infrastructure to speak about. Where densities are low, and distances are long, the cost of infrastructure is even costlier.

Therefore solutions that are, low cost, easily replicable, rapidly deployable and most important of all, self-sustainable are welcomed by decision-makers.

Two companies one Asian, called Sting Broadband Pvt. Ltd. and one Canadian, Advanced Interactive Inc., are spearheading a consortium of leading edge companies that have put together a innovative, cost effective, rapidly replicable, sustainable and most importantly a profitable solution to Bridging the Digital Divide that exists between Urban and Rural India. This business and technology integration could be deployed in the rest of Rural Asia.

A consortium was recently formed to carry out this initiative in India. Each of the consortium companies is a leader in its field of expertise with unique and non-overlapping capabilities.

The Consortium Members:

1. Bharat Sanchar Nigam LTD. (BSNL) (Asian)
2. HP Asia/ HP Labs Asia (Asian)
3. VCOM Inc. (Canadian)
4. BelAir Networks Inc. (Canadian)
5. Advanced Interactive Inc. (Canadian)
6. Sting Broadband Pvt. Ltd. (Asian)



Bharat Sanchar Nigam LTD. (BSNL)

Bharat Sanchar Nigam Limited (BSNL) is the No. 1 telecommunications company in India and the largest Public Sector Undertaking of Asia with authorized share capital of \$ 3,977 million and net worth of \$ 14 billion. It has a network of over 45 million lines covering 5,000 towns with over 35 million telephone connections. Its responsibilities include improvement of the already impeccable quality of telecom services, expansion of telecom network, introduction of new telecom services in all villages and instilling confidence among its customers.

BSNL has over 45 million line capacity, 99.9% of its exchanges are digital, nation wide. Network management & surveillance system to control telecom traffic and **over 400,000 route Kms of Optical Fiber Cable network**. It also has nationwide coverage and reach and the most comprehensive range of telecom services and a penchant for excellence; and the ingredients for restructuring Asia for a bright future. Today, BSNL is most trusted Telecom Brand in Asia.

BSNL is providing the telecommunications infrastructure (Towers, Office Space, Conditioned Electricity, Fiber Connectivity, Telephone Lines), the Internet connectivity for this project. For the existing pilot installation done at BSNL's Noida facilities BSNL has already provide all the above items.

HP Asia /HP Labs Asia

HP has combined its ingenuity, engineering prowess and customer focus to help people around the world apply technology in meaningful ways to their businesses, personal lives and communities. HP is one of the world's largest IT company. No other company offers a more complete product portfolio than HP.

HP Labs Asia is focused on developing information and communications technologies to meet the needs of Emerging Markets such as Asia.

HP has provided the server, PCs, and networking equipment for the current pilot at Noida.

VCOM Inc.

VCom Inc. is a world-leading designer and manufacturer of Data over Cable, Digital Video, and Broadband Wireless telecom products. With facilities in Saskatoon and Victoria, Canada, VCom has achieved remarkable growth in sales, profit, and manpower since its inception in 1988. Its strength in engineering and manufacturing is reflected in a large family of high quality, high performance, and very competitive products that are sold worldwide.

VCom provided the one 700 MHz Wireless system with 10 CPE for a successful pilot installed in December at Noida, India.

BelAir Networks Inc.

BelAir Networks wireless mesh solutions support the delivery of voice, video and data services to business and residential customers. With over 100 deployments worldwide, BelAir is the only company delivering a complete and comprehensive wireless mesh product line.



Advanced Interactive Inc.

Advanced Interactive Inc. (Ai) has professionally engineered elegant solutions that considerably increase access speeds to Internet and e-Learning content for schools, colleges, universities and remote villages. Medium to small businesses can also benefit from these solutions. Ai has installed its system in over 100 locations, many in remote communities world wide for example Alaska, American Samoa, Northern Canada, Hawaii, Asia, Kenya, Nigeria, Tahiti, Tonga, Uganda, etc.

Ai provides expertise and technology in completing the entire system. The integration of the various expertise, the installation of the wireless equipment, the server, the training of Sting Staff and continued monitoring and maintenance are their strengths.

Sting Broadband Pvt. Ltd. (Sting)

Sting has been working in the wireless area in India for many years with various strategic partners. Sting was instrumental in coordinating with the Indian Presidential Office; Prime Minister's Office (PMO); Ministry of Communications & IT ("MOCIT"); Ministries of Rural Development; Human Resources Development; Panchayati Raj; Agriculture; along with various governments; Telecoms (specifically incumbent operators: BSNL & MTNL); various ICT Corporations and Organizations; major Private Sector Corporations, domestically and internationally with very specific focus on providing Multi-Media Info Communication Technologies & Services in the 'Rural Economy'.

Sting and Ai were instrumental in putting together the consortium of companies for this project. As well, Sting obtained the 700 MHz spectrum license, liaison with each of the partners, the government contacts, the Presidential Office, Prime Ministers Office, and various other ministries in the Asia government.

Background

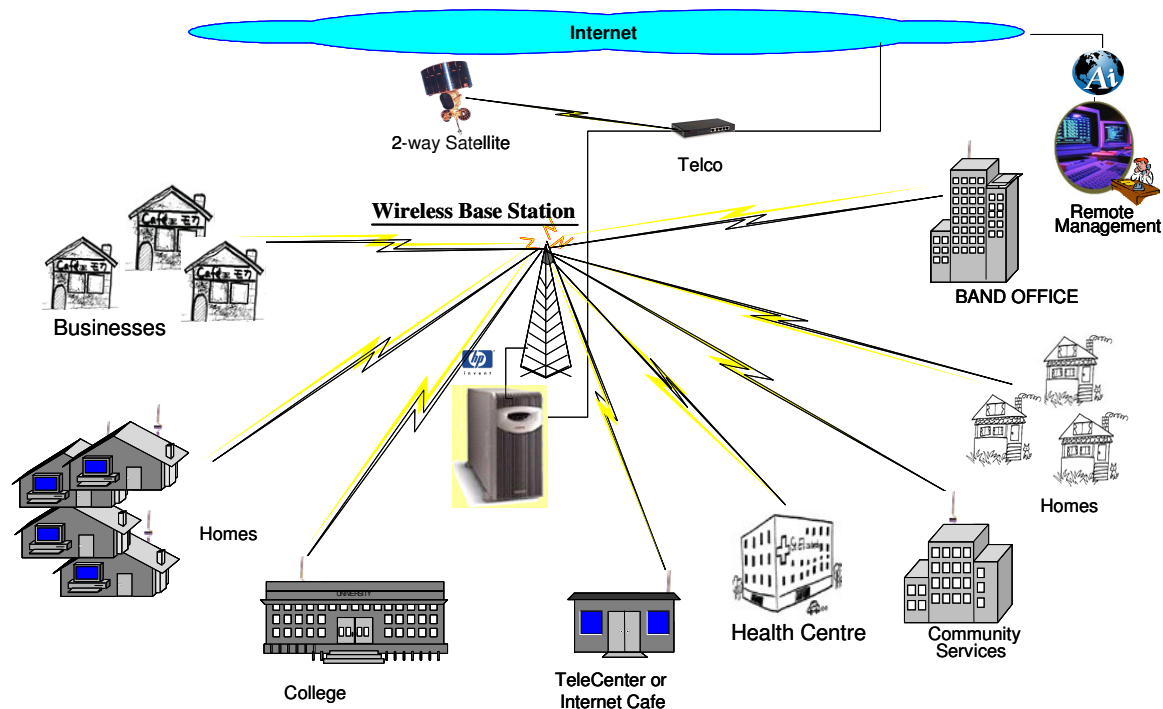
For the rural parts of the world and especially Asia, Ai has developed and deployed a sustainable system that will help bridge the digital divide. The branded CommunityAxxess System provides wireless connectivity along with a whole suite of multimedia information technology services to complete communities. A conceptual drawing of the CommunityAxxess System is shown below.

Such systems have been installed in remote places like Eskimo villages in Western Alaska, USA and First Nation villages in Northern British Columbia, Canada. These systems are made self-sustainable by servicing multiple entities within the villages such as the schools, colleges, universities, community centers, health centers, government offices, police stations, businesses and residential customers. For sustainability the local government office or a local entrepreneur takes on the task of acquiring customers and installing with voice and data services. By charging and collecting a small monthly service fee the business case is sustained.

The local entrepreneur does not have to worry about the technical support or maintain a complicated 24/7/365 system because Ai's automated monitoring system does that job. From Canada Ai has the capability to discover any potential problems quickly. Ai's professional technical support team will respond timely and will fix the problems before the users even



experience such difficulties. With the large number of services provided to multiple customers, the CommunityAxxess System is not only self-sustainable but in fact is a profitable business venture.



Ai's initial research and development was funded by CANARIE, Canada's advanced Internet research and development organization that wanted a solution to deliver Educational and Internet content at high speeds to schools with limited Internet bandwidth. CommunityAxxess delivers Internet content at speeds that are five to seventy times faster by using a unique Dynamic and Policy Based caching technology. By doing so, the hosting of most services on the CommunityAxxess Server lessens the need for external fetching of demanded data. Internal routing of local traffic speeds up the network. Only external connections, such as un-cached Internet content goes through the external networks for delivery. As such a whole community's traffic, regardless of how many local users, is speeded up. Subsequent requests to the same information are delivered from the cache at local area network speeds.

During the United Nations World Summit on the Information Society (WSIS) and the Information and Telecommunications for Development (ICT4D) meeting held in Geneva, Switzerland from December 10-12, 2003, HP showcased Ai's CommunityAxxess System alongside HP Lab's Systems. They both demonstrated solutions that achieved the bridging of the "Digital Divide" thus achieving the Millennium Development Goals (MDGs).

During December 2005 a CommunityAxxess System integrated with VCOM's Broadband Wireless Internet Network (BWIN) that provide service over a radius of over 30 KM or an area of 3,000 KM² was installed at BSNL's Telephone Exchange Complex in Noida, India (a suburb of New Delhi). The system has been used to demonstrate wireless connectivity over distances of



30 KM in a near non-line-of sight performance in New Delhi. It also showcases some of the multimedia information technology services hosted on the CommunityAxxess Server (such as voice, web-streaming). HP generously provided most of the computers and networking hardware, including the main server, to host the CommunityAxxess system.

After the system was installed and demonstrated to BSNL, BSNL and a group of Indian Telecommunication companies requested the Indian Government to allocate 30 MHz in the 700 MHz band to allow them to provide Rural India with multimedia information technology services using this spectrum.

Besides working on organizing the consortium, and championing the pilot test of the system in India, Sting used its extensive contacts in the Indian Government to demonstrate the complete system starting from the President's Office, the Prime Minister's office and a number of ministries.

Just like the United States Universal Telecommunications Funds that are being used to provide services to rural America, India has also established a similar fund. This fund has grown to a multi-billion dollar level. These funds have not been well utilized because there has not been an economical and sustainable solution thus far. BSNL and other Indian telecommunication companies can now apply for these funds as long as they can demonstrate that they have an economical and sustainable solution for rural services.

Besides the above funding source there are numerous other initiatives that are currently underway by various levels of government agencies for the above described systems. Once the profitability of the system is proven in an Indian context, additional systems will be funded by corporations and entrepreneurs thus weaning from government support.

In essence governments should be looked upon as a customer instead of as a funder.

As with most innovations the requirement for initial funding will be necessary to prove and demonstrate viability. The CommunityAxxess system is multi-faceted, has multiple components, complex to put together and requires the cooperation of a number of firms to make it viable. Proving a new paradigm that involves a large number of services over a large geographic area is a challenge that has now achieved.

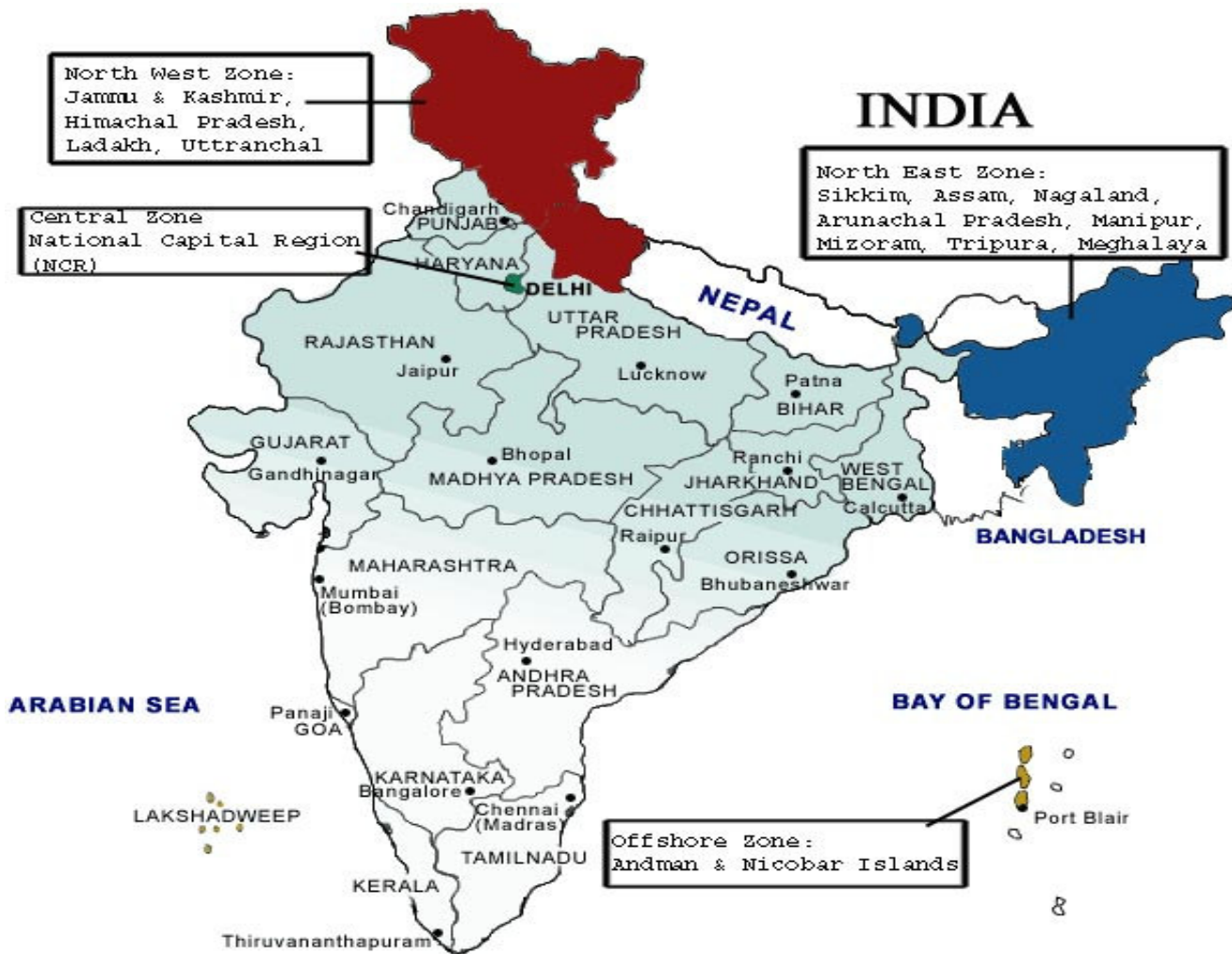
A Typical Five Region System

This section describes a five region system in different parts of India. Such a system exemplifies the type of work done by Ai.

The objective of such a system is to provide services to end customers utilizing an existing fiber optic network connected wirelessly and using the CommunityAxxess system as the managing engine. In this case we are using India as an example. There is optical fiber connectivity available in most parts of this country. There are three zones that currently do not much connectivity, the North West Zone (Jammu & Kashmir, Himachal Pradesh, Ladakh, Uttranchal),



the North East Zone (Sikkim, Assam, Nagaland, Arunachal Pradesh, Manipur, Mizoram, Tripura, and Meghalaya) , and the Offshore Zone (Andaman & Nicobar Islands).



To provide connectivity quickly to these three zones satellite services would be required. Ai sought Telesat Canada to provide this service. Telesat Canada is a subsidiary of BCE Inc., Canada's largest communications company. They have extensive experience in operating satellite hubs and the Asian Space Research Organization that has satellites over Asia that can provide connectivity to the three zones.

Fiber Community Access System

Ai also planned to use existing infrastructure to enhance the project. Called a Fiber Community Access System, it used BSNL's 400,000 KM fiber optic network. BSNL was a



pivotal partner because they already have the relevant telecom licenses, including international VSAT Licenses, the towers, Internet bandwidth, electricity, etc. in Noida. They have also approached the government to provide them licenses to operate in the 700 MHz frequency spectrums.

CommunityAxxess Server

The CommunityAxxess Server is the prime engine that manages the entire network. The server not only unites the wireless system, but also provides user, community, administration, and system services.

Each member of the community is provided with

- an E-Mail account;
- personal and global Calendar, Address Book, Filter;
- personal web page;
- personal, public, and a group shared disk storage space;
- all of the above is accessible internally from a Windows NT file server equivalent and externally with a web interface.

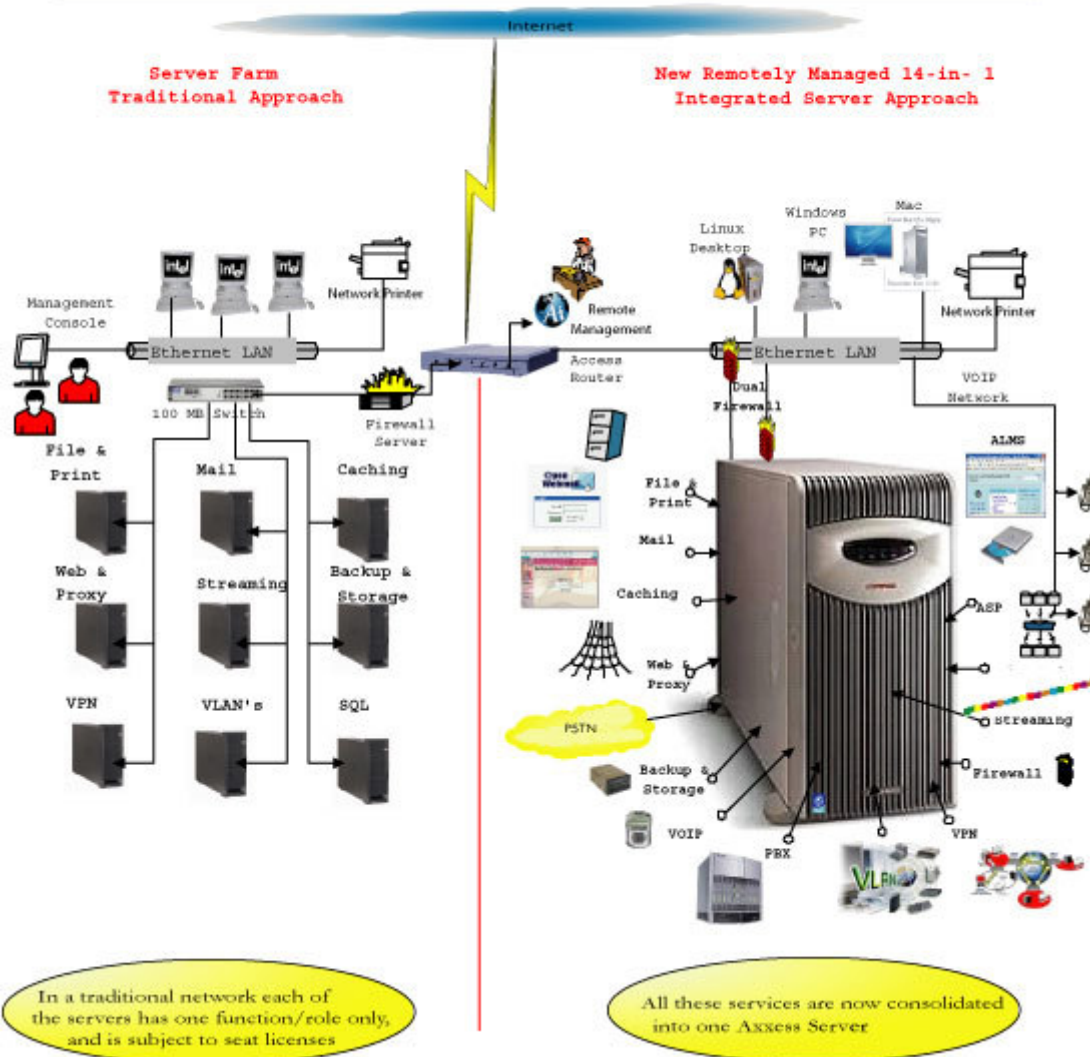
The community provides local businesses, schools and organizations with

- **Web Hosting** services
- DNS Hosting
- Learning Management System (LMS) that hosts educational courses delivered at wireless connectivity speeds. Educators can supplement the local educational resources (**pre-cached web sites and applications hosted by the server**) with news forums, chats, assignments, glossaries, lessons, and quizzes ... to create organized interactive media rich sources for their students.

Below is shown a conceptual view of the services hosted on a CommunityAxxess Server. Appendix A contains a detail overview of the CommunityAxxess System.



Consolidating multiple Servers into one totally integrated ICT Server (Information and Communications Technology)



Other Services

Other system services included are firewall, backup, redundancy, UPS, Proxy/Caching, DNS, DHCP, NTP, File, Print, Streaming, LDAP servers, and Primary Domain Controller.

On-Site Installation & Training

Ai staff assists local installers in installing the Wireless Base Station and setting up the complete system at the Hub. In a typical project, Ai will install five Customer Premise Equipment (CPEs) which talks to the Base Station at various distances to ensure that the system is fully operational.

Ai will train local personnel to administer the system via a user-friendly intuitive browser interface. The system is remotely monitored every 15 minutes to discover potential problems



before users even know a problem exists and thereby enabling Ai's technical support team to respond, troubleshoot, and fix the problems before the users experience difficulties.

VoiceAxxess Server

A **VoiceAxxess** system is part of an installation. It provides local and long distance telephone services to the rural customers. It supports three kinds of VOIP devices:

1. VOIP Telephones
2. Analogue Telephone Adapters (ATAs)
3. SoftVoIP Phones.



With VoiceAxxess the subscriber gets VoiceMail, Caller ID, Call Forwarding, Three-Way Calling, Call Conferencing, and other high end PBX services. Optionally the system can be enabled with video conferencing. The wireless system has more than enough bandwidth to run multiple video conferencing session simultaneously.

AxxessBilling Server

The AxxessBilling Server provides the billing system that logs each call and allows a mechanism for subscribers to pre-pay for the telephone usage for local and long distance calls. It also can be used to control access to the services hosted on the CommunityAxxess server. This AxxessBilling system can be hosted on a separate centralized server or the CommunityAxxess Server can be used for hosting the AxxessBilling server. This server is need if a local entrepreneur is to collection fees for each of the services on the network.

AxxessBilling Server can be setup centrally to provide billing services to multiple Hubs. When a centralized approach is used it reduces the cost of subsequent systems.

Wireless Connection

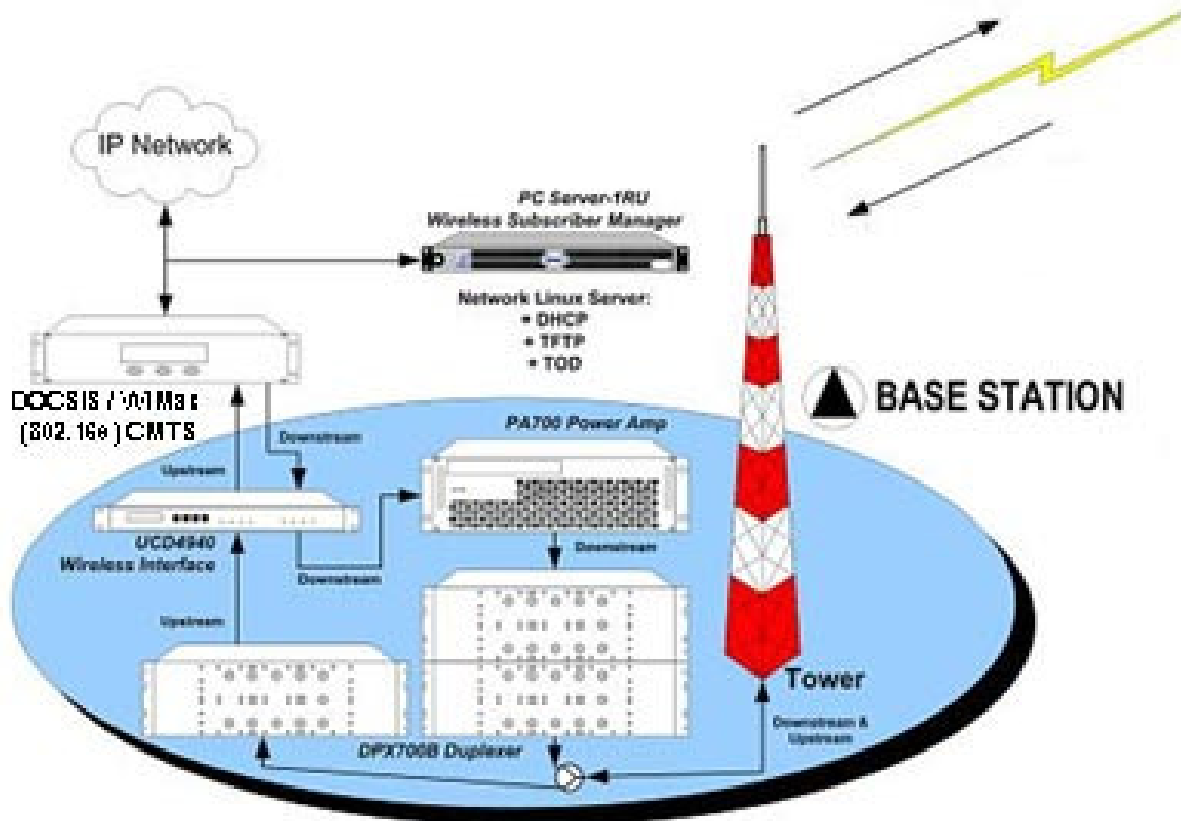
One wireless 700 MHz HUB provides coverage for villages in a radius of 30 Km or in area of 3,000 Km². This area includes approximately 100-300 villages with an average of 1000 inhabitants per village. Internet and PSTN connectivity to the HUB could be through fiber optic network. The speed from the HUB to the national communication infrastructure can be between 2 Mbps to 100 Mbps.

The HUB is scalable depending on required capacity. Each 12 MHz channel spectrum provides forward path connectivity of up to 27 Mbps and reverse path capacity of up to 20 Mbps. This is a



full duplex system thereby both the forward and reverse channels operate at the same time. The vegetation and most buildings will not interfere with this **near non-line of sight (NLOS)** wireless system.

In India, the 700 MHz frequency spectrum is a licensed spectrum and requires a license from the government to operate. You may be required to obtain such licenses. In the case of the Indian pilot, Sting acquired a temporary license to operate a 700 MHz spectrum system around New Delhi.



The Internet line connects to the CommunityAccess Server, which then connects to the **Main Wireless Base Station** at the base of the Tower. A **6-meter antenna** would need to be mounted at the top of a **40 to 60 meter high Tower**. The **Main Wireless Base Station power amplifier** has to be located within 100 meters of the Antenna.

The connectivity from Tower will be via **700 MHz wireless system** (i.e. 6 MHz in the TX:740 - 746 MHz band, and 6 MHz in the RX:(710-716 MHz band) that will provide connectivity of **speeds of up to 27 Mb/sec in the forward channel and speeds of up to 10 Mb/sec in the reverse channel**.

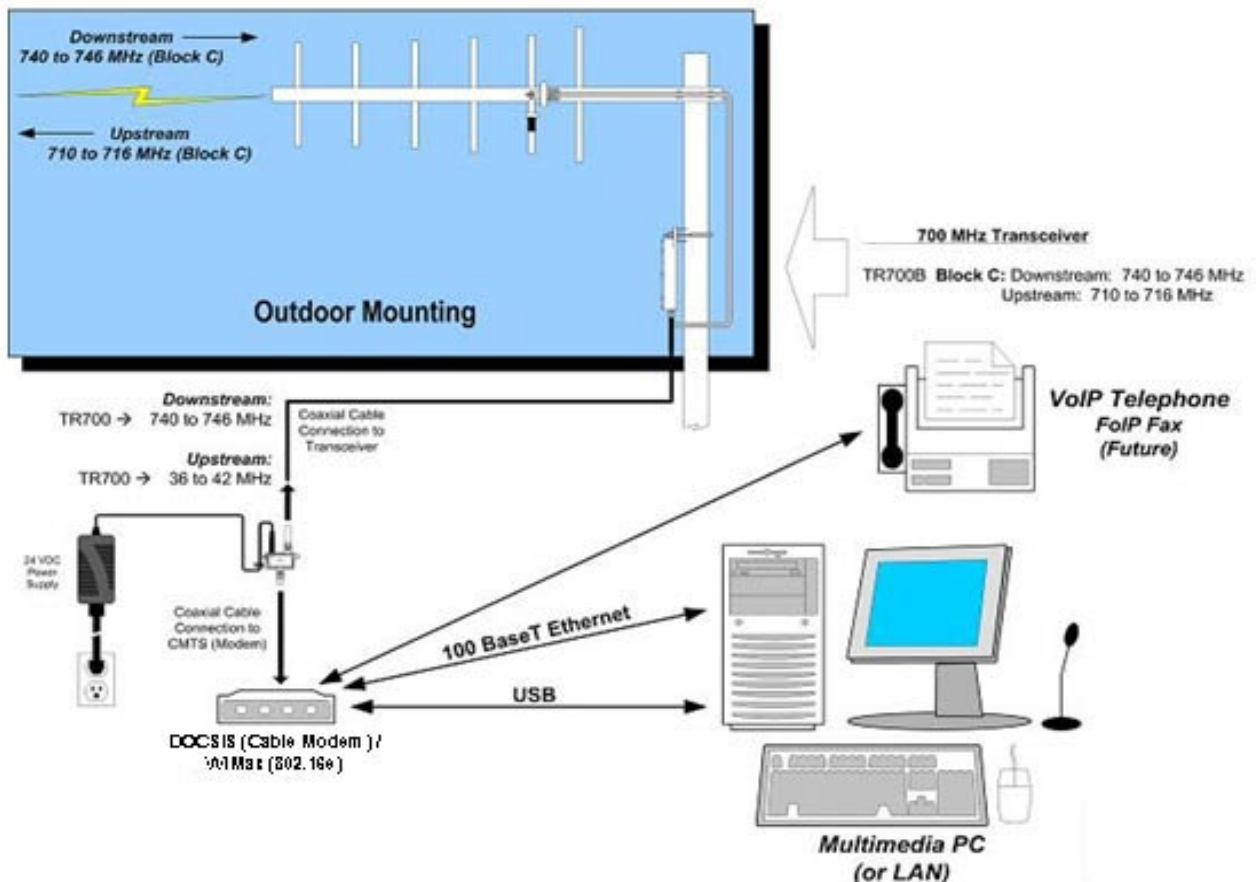


It is important to note that Ai could also install similar systems for other spectrums. If the 700 MHz band license is not available then the system could be modified to operate from 470 MHz to 860 MHz without making substantial changes to the cable modem at the customer premise level since these devices are frequency agile from 90 MHz to 860 MHz.

Additional Wireless Base Stations could be added to the system to provide a higher throughput total. With four base stations the total bandwidth that can be provided is 108 Mbps in the forward path and 80 Mbps in the reverse path.

Subscriber Connectivity

The 700 MHz wireless system would provide connectivity to each of the subscribers. The majority of the subscribers would have near line-of-sight to the Tower depending on the tower location. Wireless Cable Modem, Transceiver and an antenna will be installed at each of the subscribers. Each of the PCs, Servers, and network equipments will automatically receive IP address and other network parameters from the **CommunityAxxess Server**, which enables immediate access to Internet and other services hosted on the **CommunityAxxess Server**.



The **CommunityAxxess** system only requires **one real IP address**. The system can generate as many additional non propagating IPs as are needed. If the Internet service provider (e.g. BSNL)



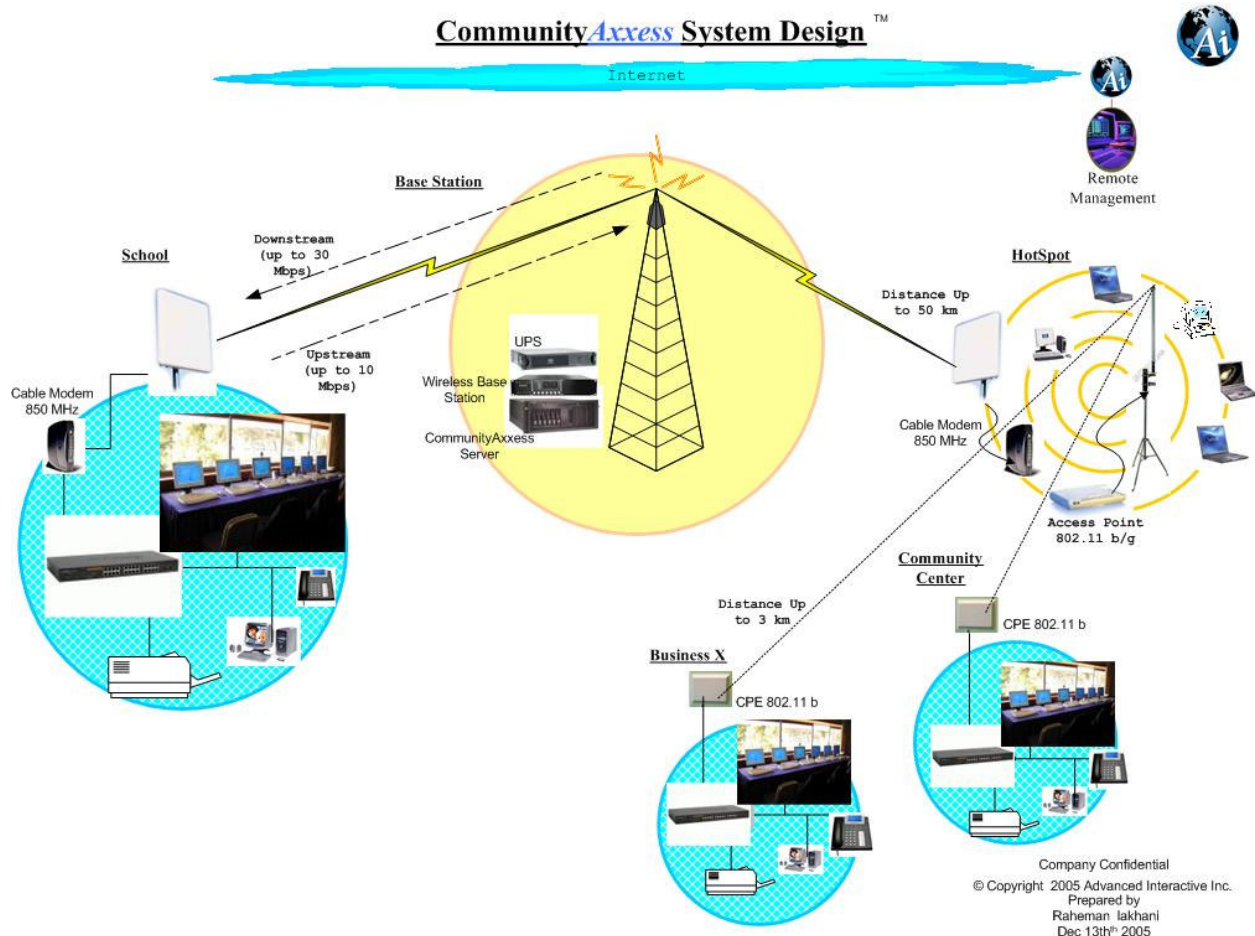
can provide real IP addresses the CommunityAxxess server can provide those addresses to the subscriber equipment.

The **CommunityAxxess Server** has an extremely strong **firewall** to protect the PCs and equipment in the LAN. There is also a strong **content filter** on the **CommunityAxxess Server** managed by local administrators.

Subscribers connected to a HotSpot (optional)

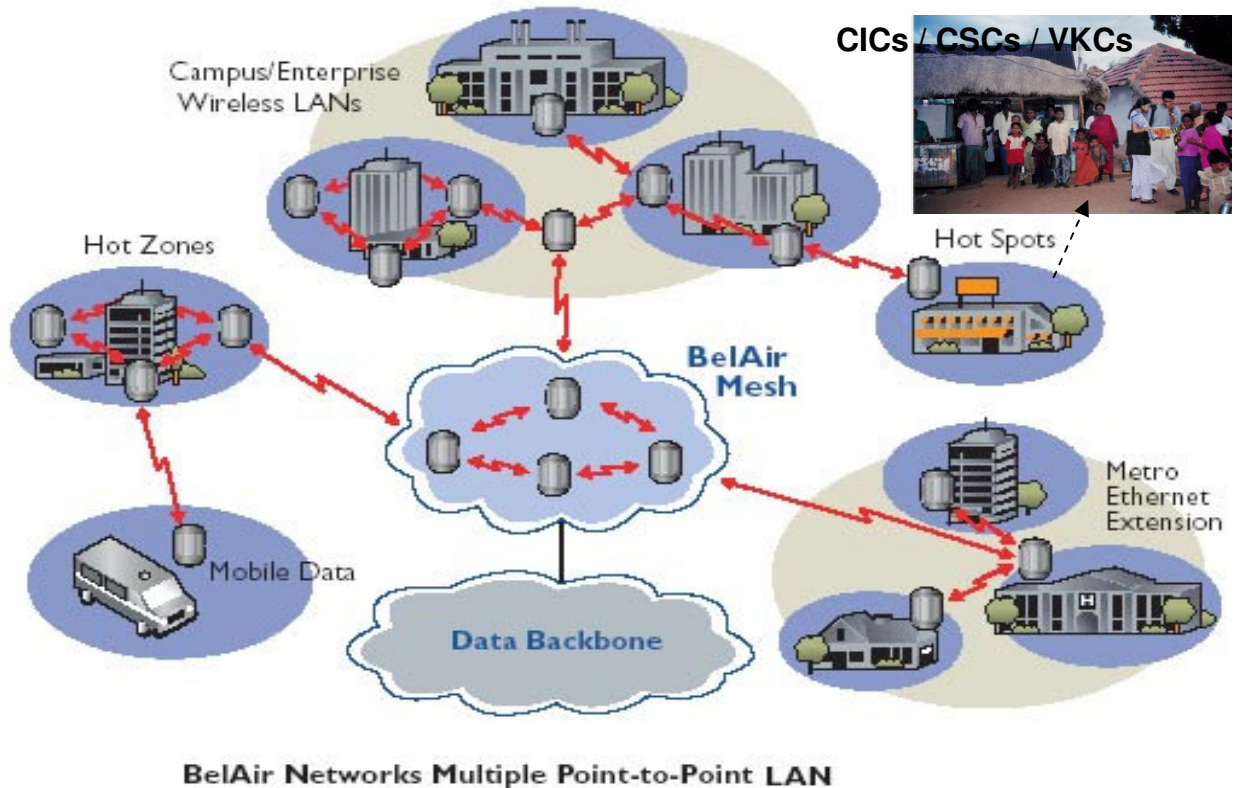
If there is any subscriber not covered by the 700 MHz Wireless system then the subscriber can be provided connectivity utilizing a **low cost 802.11 b/g wireless unit with an outdoor antenna** from a surrounding school within 2 KM (**HotSpot**) that has connectivity to the 700 MHz system. The 802.11b/g CPE is lower cost than the 700 MHz CPE.

The required **HotSpot Access Point and Antenna** will be installed on existing buildings, electrical poles, etc. for which the rights to do so would have to be obtained from the local authorities.



Meshed Wireless Network

For locations that have a high density of subscribers a Wireless Mesh system would be installed that will provide connectivity for subscribers using low cost Wi-Fi receivers. The Mesh Network Access Points would get their connectivity via 700 MHz CPEs.



Business Model

According to the manufacturer of the Wireless System a maximum of 1,000 CPEs can be connected to a Wireless Base Station per channel (27 Mbps). Using a liberal contention ratio of 10-1 and only utilizing 50% of the total CPE capacity each of the subscribers can get a bandwidth of over 512 Kbps. The system is also designed to provide different service levels to subscribers. Business subscribers can be provided more bandwidth and residential subscribers can be provided less bandwidth. This way different pricing can be setup and the number of devices, storage space, and e-mail addresses that are provided to subscribers can also be varied.

Due to the caching and hosting of most of the services locally on the CommunityAxxess Server the external bandwidth required at the Hub does not have to be the full 27 Mbps available on the wireless network. The bandwidth provided to the HUB can be at least five times smaller and users will not notice an appreciable reduction in quality of service. This efficient use of the bandwidth provides tremendous saving and makes the system economical, sustainable and most important of all profitable.



Three types of services are proposed for this system:

1. Internet Services
2. Local Telephone Services
3. Long Distance Telephone Services

A liberal telephone line contention ratio of 10-1 is also assumed. This means that only one telephone subscriber in ten subscribers is using the telephone line at any point in time. Much higher contention ratios are used in the telecom industry. If ON-NET calls are made between subscribers then the PSTN lines are not used. This effectively allows a higher contention ratio to be used and lower the overall cost of providing telephone service. As the number of subscribers goes up a higher contention ratio can be used thereby further reducing the number of telephone lines required at the Hub.

The Long Distance Telephone revenues are assumed again on a liberal level of 50% of revenue.

Additional types of services such as IPTV (entertainment), e-commerce, web hosting etc can be added once the system is setup and in the long run the additional services may very well provide higher incomes than the above three services. By having these services available in Rural Asia the rural economy will expand and flourish. Substantially more education and health care services will also be available in the rural areas.

Various kinds of subscribers are contemplated in the business model:

1. Business Customers
2. Community Centres/Schools/Other Organizations
3. Local Government Offices
4. Residential Customers

It was decided that the pricing for each of the services should be lower than it is in Urban Asia since the rural economy initially cannot afford the prices even though there is a higher cost to providing services in rural parts due to the low density and non-existence of communication infrastructure.

The following table is an Indian example. You can use the relevant costs and input to justify your own case.

Subscriber Numbers, Monthly Service Pricing & Revenues per Month

Monthly Revenue Internet Service per Channel	Qty	Unit Price	Total Price
Business Customers	75	\$ 100.00	\$ 7,500
Community Centers/Schools/Other Organizations	100	\$ 100.00	\$ 10,000
Panchayats	75	\$ 75.00	\$ 5,625
Residential Customers	250	\$ 10.00	\$ 2,500
Total Monthly Revenue for Internet Service per Hub			\$ 25,625



Monthly Revenue Telephone Service	Qty	Unit Price	Total Price
Business Customers	75	\$ 20.00	\$ 1,500
Community Centers/Schools/Other Organizations	100	\$ 20.00	\$ 2,000
Panchayats (villages)	75	\$ 20.00	\$ 1,500
Residential Customers	250	\$ 10.00	\$ 2,500
Total Monthly Revenue for Telephone Service			\$ 7,500

Monthly Long Distance Telephone Service	Qty	Unit Price	Total Price
Business Customers	75	\$ 25.00	\$ 1,875
Community Centers/Schools/Other Organizations	100	\$ 10.00	\$ 1,000
Panchayats	75	\$ 25.00	\$ 1,875
Residential Customers	250	\$ 5.00	\$ 1,250
Total Long Distance Telephone Service			\$ 6,000

Total Monthly Revenue at Hub			\$ 39,125
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All amounts in this paper are in USD.

Capital Cost of Fiber Hub

This business model here assumes that a one time capital cost of the Tower and Office space are provided by BSNL. BSNL already owns a large number of Towers and already has the fiber optic cable, electricity, office space available at the base of the tower. This would be in the One Time In Kind Contribution of the Indian Partner towards the cost of this project.

One Time In-kind Capital Costs		Cost (USD)	Total Cost
Tower for Mount Wireless Antenna provided by BSNL	1	\$ 35,000.0	\$ 35,000.00
Office Space approximately 50 Square Meters provided by BSNL	1	\$ 1,000.00	\$ 1,000.00
Conditioned Power provided by BSNL	1	\$ 2,000.00	\$ 2,000.00
Fiber Connection provided by BSNL	1	\$ 10,000.00	\$ 10,000.00
Staff that will be trained in the operation of the system provided by BSNL	1	\$ 2,000.00	\$ 2,000.00
Total Number of Months Return on Total Investment			\$ 50,000.00



One Time Capital Cost in India		Cost (USD)	Total Cost
Fiber Installation	1	\$ 500.00	\$ 500.00
LAN, Power & Local Cabling	1	\$ 500.00	\$ 500.00
Wireless Base Station Installation	1	\$ 1,000.00	\$ 1,000.00
Equipment Rack	1	\$ 200.00	\$ 200.00
Travel Costs for Project Manager/Engineer	1	\$ 3,000.00	\$ 3,000.00
Project administration, planning, design	1	\$ 5,000.00	\$ 5,000.00
Total Hard Costs on the Indian Side			\$ 10,200.00

Capital cost of Fiber Hub	Qty	Cost	Total Cost
Total Capital Equipment Cost of Satellite or Fibre Hub	1	\$130,214.00	\$130,214.00
Total Capital Costs in Asia	1	\$ 10,200.00	\$ 10,200.00
Total One Time In-kind Capital Cost	1	\$ 50,000.00	\$ 50,000.00
Total Capital Cost of Satellite or Fiber Hub			\$190,414.00

The Capital Cost of five fiber hubs would be **\$952,070 USD**.

Details on each of the pieces of equipment is shown in Appendix C

Monthly Operational Cost of Fiber Hub

Monthly Operational Costs at Fiber Hub	Qty	Cost	Total Cost
Internet connectivity approximately 5 Mbps fiber	1	\$ 2,000.00	\$ 2,000.00
Telephone Lines	50	\$ 30.00	\$ 1,500.00
DID Numbers	500	\$ 0.50	\$ 250.00
Maintenance for CommunityAxxess Server	1	\$ 1,000.00	\$ 1,000.00
Maintenance for VoiceAxxess Server	1	\$ 500.00	\$ 500.00
Office Space/Power	1	\$ 500.00	\$ 500.00
Operational Staff	2	\$ 500.00	\$ 1,000.00
Miscellaneous Office Costs	1	\$ 500.00	\$ 500.00
Administration Staff	1	\$ 1,000.00	\$ 1,000.00
Insurance and other costs	1	\$ 500.00	\$ 500.00
Long Distance Costs at 50% of Revenue	0.5	\$ 6,000	\$ 3,000.00
Total Monthly Operating Costs at Fiber Hub			\$ 11,750.00



Monthly Revenue and Annual Revenue at Fiber Hub

Monthly Revenue at Fiber HUB		\$ 39,125	
Monthly Operating Cost at Fiber HUB		\$ 11,750	
Net Monthly Revenue at Fiber HUB		\$ 27,375	

Net Yearly Revenue at Fiber HUB	12	\$ 27,375.00	\$328,500.00
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Return on Investment in Months

Number of Months to Pay Off Capital Cost of Hub			6.96
Number of Months to Pay Off Capital Cost of CPE			6.04
Total Number of Months Return on Total Investment			13.00

The normal business practice is to have customers pay for equipment at their premises. Based on that model the complete system capital equipment cost can be paid off in 7 months. If the capital cost of the CPEs is to be included then the complete system cost can be paid for in 13 months. This is an excellent Return On Investment (ROI) where all capital costs can be paid for just over one year.

Summary & Conclusion

This paper attempts to prove that by deploying Advanced Interactive's CommunityAxxess System the digital divide issue in emerging countries can be lessened. The paper has explained how it can be done at a low cost as well as sustained by the owners. A template of justification has been provided, and readers can use it to see for themselves the quick returns this system can bring. The described system is, in fact, is an extremely attractive business investment opportunity. The Pay Out Period in less than 7 months - which is excellent in today's investment climate.

This robust system that will allow Rural Asia to be provided with 21st Century multimedia information and communications system solutions that will address their immediate needs and will allow the system to be supplemented with additional educational, health care, and entertainment services.

Furthermore, we know from secondary research that there are many existing government-based funds available to provide such services to Rural Asia. These could be tapped by the Asian telecommunications Industry and other agencies, and coupled with our technologies, can become good businesses.

END

