A

Seminar report

On

Daknet

Submitted in partial fulfillment of the requirement for the award of degree
Of CSE

SUBMITTED TO: **SUBMITTED BY:**

www.studymafia.org www.studymafia.org

Acknowledgement

I would like to thank respected Mr…….. and Mr. ……..for giving me such a wonderful opportunity to expand my knowledge for my own branch and giving me guidelines to present a seminar report. It helped me a lot to realize of what we study for.

Secondly, I would like to thank my parents who patiently helped me as i went through my work and helped to modify and eliminate some of the irrelevant or un-necessary stuffs.

Thirdly, I would like to thank my friends who helped me to make my work more organized and well-stacked till the end.

Next, I would thank Microsoft for developing such a wonderful tool like MS Word. It helped my work a lot to remain error-free.

Last but clearly not the least, I would thank The Almighty for giving me strength to complete my report on time.

Preface

I have made this report file on the topic **Daknet**; I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and everyone has ended on a successful note. I express my sincere gratitude to ……..who assisting me throughout the preparation of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

Content

INTRODUCTION

As a government representative enthusiastically talks about the new telephone for a village in remote rural India, a villager asks, “Who am I going to call? I don’t know anybody who owns a telephone.” Yet, despite this sensible observation, a phone is dutifully installed as part of the current government mandate to connect villages to neighbouring towns. Although some villagers do use the phone occasionally, most still travel sometimes days to talk to family or to obtain the forms and other data that citizens in developed nations can call up on a computer in a matter of seconds.

In short, the goal of “broadband connectivity for everyone” has been shelved in favor of cutting back to the minimum possible standard telephone service in the mistaken belief that this is the cheapest way to provide connectivity. This compromise is particularly tragic given recent advances in wireless technology, which make running a copper line to an analog telephone far more expensive than broadband wireless Internet connectivity. Rather than backpedal on the goal of connecting everyone, society should be thinking, How can we establish the kernel of a user network that will grow seamlessly as the village’s economics develop? In other words,what is the basis for a progressive, market-driven migration from government seed services- e-governance -to universal broadband connectivity that local users will pay for?

DakNet, an ad hoc network that uses wireless technology to provide asynchronous digital connectivity, is evidence that the marriage of wireless and asynchronous service may indeed be that kernel -the beginning of a road to universal broadband connectivity. Developed by MIT Media Lab researchers, DakNet has been successfully deployed in remote parts of both India and Cambodia at a cost two orders of magnitude less than that of traditional landline

solutions. Villagers now get affordable Internet services-and they're using them. As one man in a small village outside of New Delhi remarked, "This is better than a telephone!"

THE WIRELESS CATALYST

Recent advances in wireless computer networking-particularly the IEEE 802 standards—have led to huge commercial success and low pricing for broadband networks. While these networks are viewed as mainly for offices or for hotspots in urban areas, they can provide broadband access to even the most remote areas at a low price. Today, wireless cell phone and wireless local loop (WLL) service costs roughly a third of copper or fiber landline service, while packet-based broadband computer networks cost roughly a ninth of the landline service—and they are far friendlier to data services and to lower-grade voice service such as voice messaging. These new technologies thus offer developing countries an opportunity to leapfrog over wireline and WLL telephony infrastructure to the forefront of broadband communications technology.

Wireless data networks based on the IEEE 802.11, or WiFi, standard are perhaps the most promising of the wireless technologies. The forces driving the standardization and proliferation of WiFi in the developed world have resulted in features that can stimulate the communications market in the developing world. These features include ease of setup, use, and maintenance; relatively high bandwidth; and, most important, relatively low cost for both users and providers.

As one demonstration of the practicality of this new technology for rural connectivity, researchers from the Indian Institute of Technology at Kanpur, working with Media Lab Asia , have "unwired" a 100-sq km area of the Gangetic Plain in central India. Figure 1 shows the corridor. This project provides broadband connectivity along a corridor with almost one million

residents, at a projected one-time cost of under $40 per subscriber. Other experiments have shown the practicality of the technology in mountainous terrain and in city centers. Indeed, several cities in the US have begun to deploy free Internet connectivity using IEEE 802.11b. Even with advances such as those demonstrated in the Digital Gangetic Plain project, the cost of realtime,circuit-switched communications is sufficiently high that it may not be the appropriate starting point for rural connectivity in developing nations.Market data for information and communication technology (ICT) services in rural India strongly implies that asynchronous service-voice messaging, e-mail, and so on-may be a more cost-effective starting point for rural connectivity projects.

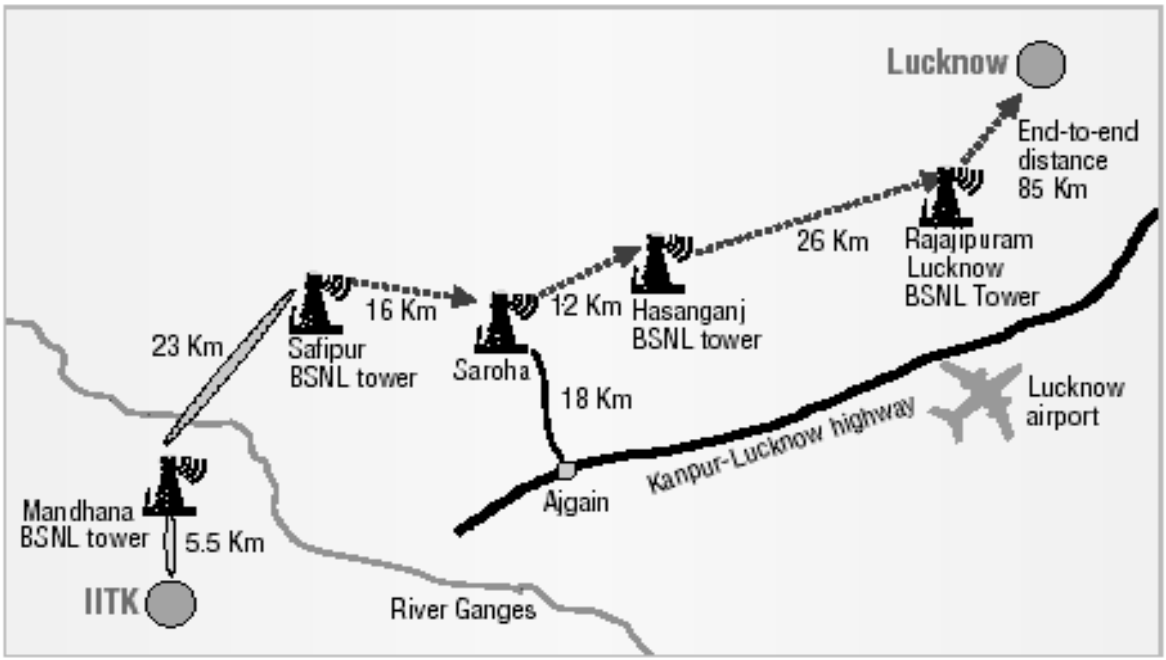

Figure 1. Digital Gangetic Plain project. Map shows the corridor of wireless technology in central India.

DAKNET IN ACTION

Villages in India and northern Cambodia are actively using DakNet with good results. Local entrepreneurs currently are using DakNet connections to make e-services like e-mail and voice mail available to residents in rural villages.

One of DakNet's earliest deployments was as an affordable rural connectivity solution for the Bhoomi e-governance project. In September 2003,we also implemented DakNet in a remote province of Cambodia for 15 solar-powered village schools, telemedicine clinics, and a governor's office.

DAKNET NETWORK ARCHITECTURE

The main parts of daknet architecture are:

- Mobile access point
- Hub
- Kiosk

MOBILE ACCESS POINT

Daknet offers data to be transmitted over short point-to-point links.It combines physical and wireless data transport to enable high bandwidth intranet and internet connectivity among kiosks (public computers) and between kiosks and hubs(places with reliable Internet connection) .Data is transported by means of mobile access point, which automatically and wirelessly collects and delivers data from/to each kiosk on the network. Low cost WIFI radio transceivers automatically transfer the data stored in the MAP at high bandwidth for each point-to-point connection.

CONCLUSION

DakNet will enlighten rural India to the Internet

The government has proposed to roll out the DakNet Wi-Fi project - involving the linking up of computers to networks without using wires - as a connectivity medium aimed at the rural masses.

According to First Mile Solutions founder Amir Alexander Hasson, who helped initiate the two DakNet Wi-Fi pilot projects in Tikawali, a village near Faridabad, Haryana, and Dodabalapur district in Karnataka, "We are using IEEE 802.11b equipment at 2.4 GHz. We don't use base stations, but rather our custom DakNet Mobile Access Point (MAP) that is mounted on and powered by a vehicle."

Giving the project details, Mr Hasson said, "Essentially, a van roam roams around the Dodabalapur district in Karnataka, stopping at different villages long enough for the local computer to connect to it wirelessly and transfer the data stored in it. From the van to the central database is also a Wi-Fi hop, thus resulting in a wireless end-to-end transfer of information - which is what Wi-Fi is all about. The project involves creating an online database of land records."

Essentially, the DakNet-enabled vehicle drives past a kiosk where it picks up and drops off land record queries and responses. Each day, this is synchronized with a central database. Data is transported through the access point, which automatically and wirelessly collects and

delivers data from each kiosk on the network. The transfer of data can take place up to a radius of 1.25 km around the kiosk.

REFERENCES

- www.google.com
- www.wikipedia.com
- www.studymafia.org