Satellite Communication

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Abstract- *Satellite communication is the moral fiber of wireless transportation, and worldwide position system A Satellite is parallel to a satellite, but is stationed in the stratosphere relatively than in path. The Satellite is intended to take convinced payloads into the Stratosphere resolute by the supplies of the purchaser. The idea allow for rise and fall and motionless process. small and extended juncture mission are probable with the Satellite with probable start on capability system within 24 hours at any place.*

I. INTRODUCTION

A Satellite is a high-altitude blimp that is in a set place of the inferior stratosphere and carries one or more repeaters to produce wireless message network. Satellites is , secret as both unmanned mid-air vehicle and high height airship, these are the motivation of move up and down Jones, who is a previous NASA scientist[1]. Each Satellite would be able of supply cellular phone and Internet infrastructure from an tallness of 13 miles (approx.20 km).The wireless network produced by a single Stratellite will cover a round geographic region of 3,00,000 square miles.

Fig: 1

Sanswire think that as fourteen Satellites would make an overlap radius of around the continental United States. The radius of the profitable account of the blimp is about 100 feet. The unbending rim, sum up of older mix assets, that will gauge 245 foot in chilliness end to end and plug the almost 1.3 million cubic feet of quantity with a mix of helium and nitrogen. According to the Sanswire, the Satellite would be clever to take up to a 5000-lb. load at 8,000 feet for 10-15 hours of incessant process. This height seats the airship on top of both profitable air traffic and climate belongings but inferior than normal low earth orbit. The North American Aerospace defense authority project that eleven such airships would provide radar reporting of the whole marine and southern limits of the United States.

Construction:

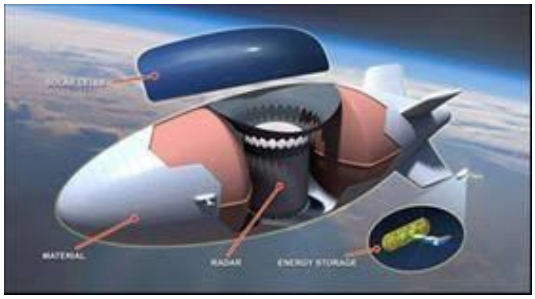

Fig: 2

In previous the Satellite was 188 feet larger, 60 feet wider and 42 feet tallness. It is provide with a new developing technique which uses a cross moving system that force big, and slow revolving propellers. This give the airship bright to go both up and down, and surface to surface. The exterior coating is complete up of a high-tech fabric like spectrum – which is a cloth second-hand in bullet-proof vests plus part of room shuttle [2]. spectrum hold fiber and it is 10 times as physically powerful as make stronger of the similar weight and it has the only trait of being easy to cut but not likely to rip.

The in coating, total as of a thin and bodily influential polyester big screen called Mylar, it is built-in in the cover and full with a combination of helium air as an still gas and is therefore not combustible and also not dangerous. With this design, the helium get bigger as the airship to go up, forcing air absent and thrilling the blimp.

The series continues, in allowing the airship to gain more and more altitude until the helium is expanded to fill the cover totally. since the force is so low in the cover, a pierce would only result in a very slow leak, taking a long time to

totally deflate [3]. General characteristics A. Length: 245 feet in (75 m) B. Width: 145 feet in (44 m) c. Height: 87 feet in (26.5 m) D. Volume: 1.3 million feet 3 (420,000 m3) presentation repair upper limit: 70,000 ft (21,000 m) Outer layer or envelopes, made of Dynamo (modern fabric sometimes called Spectra) Navigation: 6 onboard System units linked to the ship's engines Payload capacity: 3,000 lb (1,451 kg) cruise altitude: 65,000 feet (20,000 m) Filled gas: Helium and Nitrogen Line-of-sight: 300,000 mile² (480,000 kilometer²) utmost period up: 18 months

Satellite technology and advantages:

Satellites are actually unmanned (distant forbidden) Kevlar balloons full with helium. The practice is a thin-film photovoltaic cells sprayed on their surface to make electrical energy, which drive propellers that work with GPS technology to keep the stratellite, located over one spot on the Earth's surface. Prototype airships are projected to carry payloads as large as 5,000 pounds, and later models are expected to carry over 20,000 pounds of radars and other remote imaging equipment, navigational aids, and telecommunications relays[4].

Stratellites are designed to remain on station for a year at a time and will cost fifth as much as a comparable satellite Due to the drawback the satellite we use stratellite as alternate source of communication [5]. First drawback of satellite is a signal latency, in which it causes problems in establishing broadband links. Most telecommunication satellite is in orbit to remain above a certain point on the earth's surface

Satellite technology and disadvantages:

It is difficult for the stratellite body to gain super pressure, which is important for the stratellite body to float in the stratosphere. Satellite communication needs a systematic ground control and maintenance. This kind of technology is yet to be commercialized. different satellite, satellite communiqué is base on the climate circumstances. This kind of message create more transfer in stratosphere.

Satellite Communication:

Satellite can be obtainable up to 3, 00,000sq mile area. satellites take over 20,000 hit of radar, other equipments and communication communicate. They are intended to stay on position for one year period of time [6]. They are far cheaper to open and to uphold.

Thus, for a state 2 satellites are sufficient in its place of using 1000's of compartment telephone tower. There are a lot of country and distant area where the internet ability is not yet available. If satelites are introduce, it will become easier to give sign still in country area..

Fig: 3

Satellite application:

Once a Stratellite network is in place, it will provide a national broadband wireless network that will provide voice, video, and internet access to all parts of the country. By linking several Stratellites together they can provide a wireless broadband network that will cover thousands of miles. With the help of Stratellite network, the subscribers will be ableto sit in their place and be connected on their laptops to the internet at high speed. If the subscribers need to go to the office, town, or even to another city, they can close their laptop and take off, reopening the laptop at their new destination and still be connected to the internet. This would allow the subscribers to be ease of not having to find local access numbers, tie up phone lines, deal with modem hassles, and more importantly, slow speeds.

In addition to internet use, they proposed telecommunications uses which includes cellular, 3G/4G mobile, MMDS, fixed wireless telephony, HDTV, real-time surveillance and others.

Marketability and cost:

Stratellites reduces the cost of installation of huge cellular towers, as they are present in the stratosphere. Stratellites are easily affordable to maintain and update them [7]. But stratellite costs a lot for launching it into the stratosphere. By planning the launch properly we can reduce the cost a bit

Stratellite communication and working:

Interior of the balloon is filled with Helium gas. Helium gas not flammable and it is inert a gas. This gas enlarges the balloon, pushing out air and it elevates the airship. Electricity is generated with help of solar cells which are spread on their surface [8]. Generated electricity drives the propellers which work with GPS to keep the stratellite stationary.

Services:

At the height of 13 miles all the Stratellite can have vivid line of sight communication which will be able to provide coverage across metropolitan and rural areas. This idea if victorious would be revolutionary for undeserved areas where the broadband are not as popular as those cables are really costly. Stratellite will allow two way high speed data communication. This ensures that users can receive signal without help of any wires, cables and cellular towers.

II. CONCLUSION

Stratellite is a possible technology. If this kind of technology comes into real life it can be beneficial for people in remote areas. They play a vital role for our future generation. This is a promising technology which can provide better communication. We users can get more benefits from this technology like high speed data transfer and hugely spread. Process of launching the stratellite can be costly, but it is like one time investment which can be beneficial for our future generation.

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