



Dreamtilt Wireless Broadband

White Paper

The low-cost, easy-to-install delivery method for high-demand technologies like Internet access, Voice over IP, video services, and security surveillance

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Table of Contents

Product Overview

What Is Dreamtilt Wireless?

How Does It Work?

Why Dreamtilt Wireless?

Installation

Installation Process

What if you have more than one computer?

Advantages of Wireless

Security

VoIP

Cost

Comparison

Residential

Business

Premium Business

Industry

Applications

Summary

Product Overview

What Is Dreamtilt Wireless?

Dreamtilt Wireless provides wireless Ethernet connections that can be used to transport voice, video and data. It's a total broadband access solution designed for extending networks wirelessly to provide broadband services to virtually anybody, in virtually any environment, for residential, business and industry applications.

Dreamtilt Wireless combines field-proven toughness with exceptional performance, security, ease-of-use and cost effectiveness. And with a broad array of access points and subscriber modules, it can be configured to meet your current and future needs.

How Does It Work?

Dreamtilt Wireless Broadband service connects to a wireless router in your home or office just like most ADSL or Cable services do. We simply plug the installed Ethernet cable into a wireless router (provided by Dreamtilt). We then configure and secure the wireless router to allow your computers to connect either wirelessly or via an Ethernet connection. Once configured you are then connected to the Internet all the time!

Our installers install our specialised wireless equipment on your roof and then run an Ethernet cable inside. The wireless subscriber unit device installed on the roof (which is about the size of a shoebox) links your home to one of our base station up to 10 - 15km away.

There is no limit to the amount of computers you can connect.

Why Dreamtilt Wireless?

Dreamtilt Wireless is very, very fast. The connection is stable and consistent.

And always on.

And requires no phone line connection.

And can be installed quickly – in some cases on the same day you order.

And we are local.

Another significant benefit of Dreamtilt Wireless is that our plans have no excess data fees. Once you reach your maximum data limit for the month, your service is modulated to a slower speed, so your bill doesn't go up. There is also no fee to change plans or speeds, so you can adjust your plan month to month depending on your data or speed requirements.

Plus, if you add a VoIP account for your phone, then you can really save money compared to ADSL connections as can be seen in the cost comparison section.

Installation

Installation Process

Dreamtilt Wireless creates an Internet connection via a wireless antenna system. A small white rectangular box, which includes a radio receiver/transmitter, will be installed on your roof. This subscriber unit will be pointed at the nearest Dreamtilt access point tower.

Our professional installers will then run a CAT5 or CAT6 (depending on installation) wire into your home or office. We then connect this to a wireless router inside. Our installers will then set up your computers to connect to the wireless service, secure the system, and ensure that you are receiving the best possible connection. After we finish, you simply enjoy astonishingly-rapid wireless Internet service.

When a customer orders Dreamtilt Wireless, we normally arrive for installation within the five days depending on availability. The installation and setup process normally takes around two to three hours and we complete the installation when you are present.

Installation can take place on the same day of the order in some instances and urgency.

What if you have more than one computer?

No problem. We will set up your own wireless network. The wireless router supplied will connect to the Ethernet cable we install in your building, and will allow up to four computers to be plugged in directly. It can also send the Internet signal wirelessly throughout your building allowing any computer with a wireless card to connect.

Advantages of Dreamtilt Wireless

Security

Wireless communications provide considerable flexibility by sending signals over airwaves instead of over wires or fibre. However, sending signals over airwaves can create the opportunity for a security risk in the form of data interception. Using the following five techniques, which provide protection at the physical, network and application layers of the network, Dreamtilt Wireless is able to provide a highly secure and robust system to keep out wireless eavesdropping and malicious user attacks.

Dreamtilt Wireless security infrastructure has the following features:

1. Proprietary Wireless and Data Formats

Unlike a Wi-Fi based Wireless LAN such as 802.11b or 802.11a/g where the standard is "open," Dreamtilt Wireless uses proprietary communications signalling and data-link protocols. Unless a

customer has a properly configured Subscriber Unit on the same access point, it is impossible to intercept or spoof the wireless data streams.

2. Pseudo-random Transmission Scrambling and Encryption

The proprietary signalling scheme used pseudo-randomly scrambles the transmissions with one of over 500,000 scrambling sequences, thus increasing the difficulty of intercepting a transmission. Using another Dreamtilt Wireless Subscriber Unit, it would take more than one year to search through all the scrambling codes. Encryption is also employed on every wireless link, typically at 128 bit.

3. MAC Address Authentication

The Dreamtilt Wireless Base Stations maintain a user-configurable and password controlled table of subscriber unit MAC addresses. Subscriber units cannot talk to the network unless the Dreamtilt Wireless Base Station Unit authenticates its MAC address and "adds" it to the network.

4. MAC Address Filtering

The Dreamtilt Wireless Subscriber Units are configured to filter the downlink traffic stream to prevent another Subscriber Unit from outputting traffic that is destined to another Subscriber Unit. The filtering restrictions can be based upon Ethernet addresses, VLAN addresses, or IP addresses. Only the Dreamtilt can configure the filtering controls. This prevents unauthorized access of another user's data.

VoIP

Dreamtilt VoIP (which stands for Voice over Internet Protocol) is a technology that allows for the delivery of voice communications over the Internet. VoIP is very inexpensive, and yet more flexible than traditional phone service.

With Dreamtilt VoIP, communications services are carried over the wireless connection rather than the public telephone network. The process involves converting an analog voice signal to a digital signal, then divvying up that signal into IP packets that are then transported to the call's destination. At the receiving end, the process is basically reversed—the digital data is converted back to analog voice, and the call comes through with crystal-clear clarity.

Using Dreamtilt Wireless and VoIP allows you to have Internet and Phone without the need for a phone line, saving you monthly phone line rental costs.

Calls made on Dreamtilt VoIP are extremely cheap. With un-timed local calls at 15c, un-timed national calls at 20c, calls to mobiles 25c per minute and calls to overseas countries starting from just 3c per minute. Plus, if you call another person also on Dreamtilt VoIP – the call is free!

Cost

Comparison

Full pricing is available on our web site www.dreamtilt.com.au but we work hard to ensure the cost of our broadband wireless service is as good as, and in many cases better, than any comparable broadband service.

It is important to also remember that this service does not require you to have a phone line installed at your house. Many people these days are paying \$30.00 or more for telephone line rental when the only reason they have it is so they can have a broadband Internet connection.

A rough comparison would be as follows:

Item	Dreamtilt Wireless	ADSL & Phone Service
Broadband Installation	\$600	\$129
Monthly Line Rental	Nil	\$27.95
Internet Fee	\$60	\$69.95
Data	50GB	50GB
Connection Speed	1500 / 512 (2 x upload speed!)	1500 / 256
VoIP Monthly Fee	\$10	Nil
50 local calls	\$7.50 (15 cents per call)	\$10.00 (20 cents a call)
20 x 10 minute national calls	\$6.00 (20 cents per call)	\$57.80 (39 cent connection fee plus 25 cents a minute)
50 x 2 minute mobile calls	\$25.00 (25 cents per minute)	\$48.70 (39 cent connection fee plus 37 cents a minute)
Subtotal Phone Cost	\$48.50	\$144.45
Total Cost for 12 Month Service	\$720 + \$582 + \$600 = \$1902	\$839 + \$1733 = \$2572
Total Cost over 2 years	\$1902 + \$720 + \$582 = \$3204	\$2572 + \$2572 = \$5144
Total Cost over 3 years	\$3204 + \$720 + \$582 = \$4506	\$5144 + \$2572 = \$7716
Saving		\$3210 more!

As can be seen, even with the install cost, you still are better off in the first year, and every year after that you are saving even more money! Depending on your calls and data plan – you could save even more!

You may find that you will save even more than the comparison above depending on your wireless plan and phone costs.

Residential Plans

Dreamtilt Wireless is so fast, it's ideal for applications like VoIP and online gaming. And with our service, there are no contract periods, no charges for changes in speed, and no setup fees. All Dreamtilt Wireless residential plans also include a free dialup account that allows you to dial up from anywhere in Australia.

Residential plans are shaped to 64k once the download limit is reached. No additional charges are applied.

plan name	speed (down/up)	e-mail accounts	data included	monthly fee
256/128	256/128Kbps	5	1Gb	\$20
256/128	256/128Kbps	5	5Gb	\$25
256/128	256/128Kbps	5	10Gb	\$30
256/128	256/128Kbps	5	15Gb	\$35
512/256	512/256Kbps	5	5Gb	\$30
512/256	512/256Kbps	5	10Gb	\$35
512/256	512/256Kbps	5	25Gb	\$40
512/256	512/256Kbps	5	50Gb	\$45
1.5/512	1500/512Kbps	5	5Gb	\$45
1.5/512	1500/512Kbps	5	10Gb	\$50
1.5/512	1500/512Kbps	5	25Gb	\$55
1.5/512	1500/512Kbps	5	50Gb	\$60
2M/1M	2000/1000Kbps	5	5Gb	\$70
2M/1M	2000/1000Kbps	5	10Gb	\$75
2M/1M	2000/1000Kbps	5	25Gb	\$80
2M/1M	2000/1000Kbps	5	50Gb	\$95

The cost of installation is \$600, which can be split over two or three months. This includes the installation of wireless subscriber unit required to connect to the network, standard wireless router and setup of computers.

Business Plans

Dreamtilt Wireless is your ideal solution for creating rapid access to business information between locations. You can use it to establish cost-effective links to remote branch offices, and/or to connect an indoor wireless local area network (WLAN), creating a completely wireless IP network and connecting inside to outside. Best of all, Dreamtilt Wireless provides all these advanced capabilities on a cost-effective basis. In fact, the cost is substantially less than the cost of fixed leased-line alternatives. There are no contract periods, no charges for changes in speed, and no setup fees. Speed is shaped to 128 kbps once data limit has been reached.

plan name	speed (down/up)	e-mail accounts	data included	monthly fee
256/128	256/128Kbps	5	1Gb	\$25
256/128	256/128Kbps	5	5Gb	\$30
256/128	256/128Kbps	5	10Gb	\$35
256/128	256/128Kbps	5	15Gb	\$40
512/256	512/256Kbps	5	5Gb	\$45
512/256	512/256Kbps	5	10Gb	\$50
512/256	512/256Kbps	5	25Gb	\$55
512/256	512/256Kbps	5	50Gb	\$65
1.5/512	1500/512Kbps	5	5Gb	\$65
1.5/512	1500/512Kbps	5	10Gb	\$70
1.5/512	1500/512Kbps	5	25Gb	\$75
1.5/512	1500/512Kbps	5	50Gb	\$85
2M/1M	2000/1000Kbps	5	5Gb	\$100
2M/1M	2000/1000Kbps	5	10Gb	\$110
2M/1M	2000/1000Kbps	5	25Gb	\$120
2M/1M	2000/1000Kbps	5	50Gb	\$140

The cost of installation is \$600, which can be split over two or three months. This includes the installation of wireless subscriber unit required to connect to the network, standard wireless router and setup of computers. A wireless router upgrade is available at additional cost if required.

Premium Business Plans

Premium plans include a Service Level Agreement with defined rebates, and are shaped to 256 KB once download limits are reached. There are no contract periods, no charges for changes in speed, and no setup fees.

plan name	speed (down/up)	e-mail accounts	data included	monthly fee
512/512	512/512Kbps	5	10Gb	\$100
512/512	512/512Kbps	5	15Gb	\$115
512/512	512/512Kbps	5	30Gb	\$145
512/512	512/512Kbps	5	50Gb	\$160
512/512	512/512Kbps	5	UNLIMITED	\$450
1M/1M	1000/1000Kbps	5	10Gb	\$300
1M/1M	1000/1000Kbps	5	15Gb	\$330
1M/1M	1000/1000Kbps	5	30Gb	\$360
1M/1M	1000/1000Kbps	5	50Gb	\$400
1M/1M	1000/1000Kbps	5	UNLIMITED	\$800
2M/2M	2000/2000Kbps	5	15Gb	\$700
2M/2M	2000/2000Kbps	5	30GB	\$750
2M/2M	2000/2000Kbps	5	50Gb	\$800
2M/2M	2000/2000Kbps	5	UNLIMITED	\$1,600
3M/3M	3000/3000Kbps	5	30GB	\$1,300
3M/3M	3000/3000Kbps	5	50Gb	\$1,400
3M/3M	3000/3000Kbps	5	UNLIMITED	\$2,800

The cost of installation is \$600, which can be split over two or three months. This includes the installation of wireless subscriber unit required to connect to the network, standard wireless router and setup of computers. A wireless router upgrade is available at additional cost if required.

Industrial plans

We can provide speeds up to 300 MB for industry. Cost is per MB, and is an unlimited connection. Our industrial plans include a Service Level Agreement with defined rebates.

plan name	speed (down/up)	e-mail accounts	data included	monthly fee
1:1 Dedicated	1:1 Dedicated MB		UNLIMITED	\$1400 per Mb

Cost of installation will depend on the site requirements. Please call Dreamtilt to schedule a site inspection that will determine installation costs.

Applications

Internet Access

Fixed Wireless can be used to support Internet access and VoIP, both for the residential, business and industry markets. The very high throughput (speed), as well as the symmetric capacity and the capability to cover large distances, make this technology ideally suited to businesses wanting to upgrade from legacy broadband systems to a faster solution. Fixed wireless data encryption also offers excellent link security to protect against undesired interception and manipulation of sensitive traffic. Fixed wireless also offers a high degree of scalability made possible by the QoS, which is used to prioritize voice (telephony among branches), data (financial transactions, email, Internet, and intranet) and video (surveillance, CCTV) traffic.

Disaster Recovery

Dreamtilt can provide an alternative solution in the event that an unforeseen disruption occurs in your traditional terrestrial solution. No matter how well maintained a system is, at times they can be rendered inoperable by damage to cables or failure of systems. This downtime can have a serious impact to a business. Dreamtilt can quickly and effectively put in place a temporary (or redundant link) to get your critical business data flowing again.

Alternative to Fibre

Fibre is an excellent high bandwidth solution – however it does have its downfalls. Fibre can be subject to cuts, expensive deployment costs, issues with trenching, and long installation times.

The advantages of wireless over fibre include cheaper upfront costs, no requirements for trenching or other terrestrial works, rapid deployment, ease of relocation, and scalability.

With speeds scalable up to 150Mb possible a business and industry can achieve speeds that will handle any requirement.

Summary

Dreamtilt Wireless is the super-fast Internet service that lets you take advantage of the latest wireless technologies at your home or office. And it's surprisingly inexpensive and cost effective. Think about these factors when you're making a decision:

- No phone line required
- No excess data fees
- Quick and easy installation
- Your own secured wireless network
- Low-cost VoIP calling

Don't those facts make Dreamtilt Wireless the obvious choice? For more information, or to schedule installation, visit our web site at www.dreamtilt.com.au or call us at 1300 306 126.

Information was current at the time of printing and should be used as a guide only.
Errors and omissions accepted. Wireless speeds can be affected by factors including local wireless conditions. Maximum speeds will not be available in all areas.