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How to Build a Regional Community Network for Education

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Background



- In 1995 Ace Internet Services was established in Bowral NSW.
- In late 2005 with a large number of locals still on dial up Internet access and with Telstra still resisting the roll out of ADSL to many areas, wireless access became the only viable option.
- AirStream was developed by Ace Internet Services to help solve this access problem and was deployed to many residents businesses and schools.
- In March 2008 the property owner asked the operator to remove it.
- We had a problem and had to find a solution.



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Find a suitable site.....



Council Land – Leisure Centre and a Council Election

- The only location that would service the existing customers was Lot 10 Oxleys Hill Road, WSC Land.
- We prepared our application submitted it with the supporting information and the recommendation to lease the land to Ace went up to the Council for consideration on the 23rd of July 2008.
- The application was rejected because the land was identified to sell, proceeds were for the leisure centre, the tower would devalue the land!

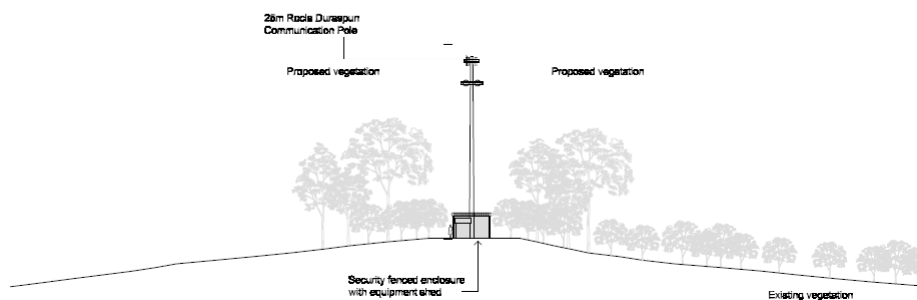
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The Election

- The media gave the Tower story a run after the decision and there was wide community support for us and what we were trying to achieve.
- The Council held a plebiscite for the Leisure Centre and it was voted down by the Community and so the land would remain as Council land.
- Resubmit and go again, but we were asked to wait 3 months to avoid a rescission This we did.

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The original concept plan submitted to council.



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We needed high speed internet and a path to the tower.

- Options are not easy, the incumbent carrier ensures this....
- We explored options with TransGrid who run fibre to their substations and have towers to relay from. The trouble is they are generally well away from anywhere, it would be complex, but could be done.
- TransGrid were very helpful and we are still talking with them about possibly expanding the network.

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In our back yard

- My Rotary Club had the opportunity to hear Dr Jeff Freeman from the Garvan Institute of Medical Research speak on the progress of ABR in Moss Vale.
- Both Garvan and Ace felt the area was a dead zone for Internet bandwidth.
- We discovered that Garvan and UNSW were installing AARNet fibre to ABR!
- I spoke with Jeff and told him what we had planned with the Tower and could ABR help the Schools project.
- Jeff invited us to visit ABR and see if we could work together to develop a solution.

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Australian BioResources Moss Vale
a subsidiary of the Garvan Institute of Medical Research



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Oxley Hill from ABR



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Fibre and a roof!



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Introduce AARNet

- Jeff arranged a meeting with Nick Cross from AARNet .
- AARNet and UNSW were very keen to assist.
- We held a meeting with Ace, ABR, AARNet , local schools, Council and business leaders.
- Everyone agreed that the project was of great value and we agreed to move forward.
- All we needed was Council to agree to the tower.....

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Council Agrees

- The Councilors unanimously agreed to the project on the 13th of May 2009!
 - the terms were....
 - 5 year lease
 - Council gets the tower and facilities after that...
 - \$10,500 PA rent with minimum 5% increase
-
- A short lease and a lot of capital required for a tower, the project viability was now an issue!

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Think outside the square, where do you find a cheap tower...



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An interesting vendor

- A communications tower?



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December 12th 2009 Start Building



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March 2010
The HHERN became operational
2 years of planning
3 months to build.



Chevalier College took a lead role in the project and in April 2010 were connected



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Southern Highlands Christian School November 2010



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Connecting the latest school...



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Oxley College June 2011



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Schools Usage Portal

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Usage for air0076

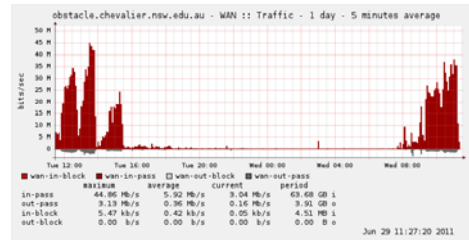
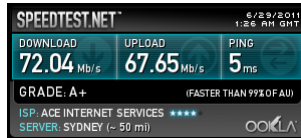
Months	All uploads (GB)	On-net downloads (GB)	Off-net downloads (GB)
Apr 2010	17.81	41.05	19.97
May 2010	70.19	198.88	117.48
Jun 2010	63.18	245.36	148.14
Jul 2010	44.21	154.68	161.05
Aug 2010	107.81	312.48	170.68
Sep 2010	74.26	261.04	119.17
Oct 2010	52.53	217.43	96.20
Nov 2010	67.81	351.99	156.17
Dec 2010	90.54	32.73	25.12
Jan 2011	19.29	16.69	47.45
Feb 2011	36.18	750.00	167.11
Mar 2011	56.33	363.64	288.24
Apr 2011	58.48	163.71	142.30
May 2011	89.81	512.99	402.44
Jun 2011	81.89	558.81	407.47
Jul 2011	12.04	93.17	42.12
Total:	884.04	3704.61	2516.11

Note: Rounding may apply. 1 GB = 1000 MB = 1,000,000 KB = 1,000,000,000 bytes. Values displayed may be ongoing, and/or be delayed by some amount of time. For best results when printing, switch to landscape view.

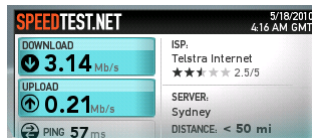
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Network Performance

Chevalier College



Oxley College before and after



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HHERN Schools



Kate Forsyth with participating students



HHERN is more than just high speed Internet – we are about leveraging the possibilities.

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International Cricket Hall of Fame

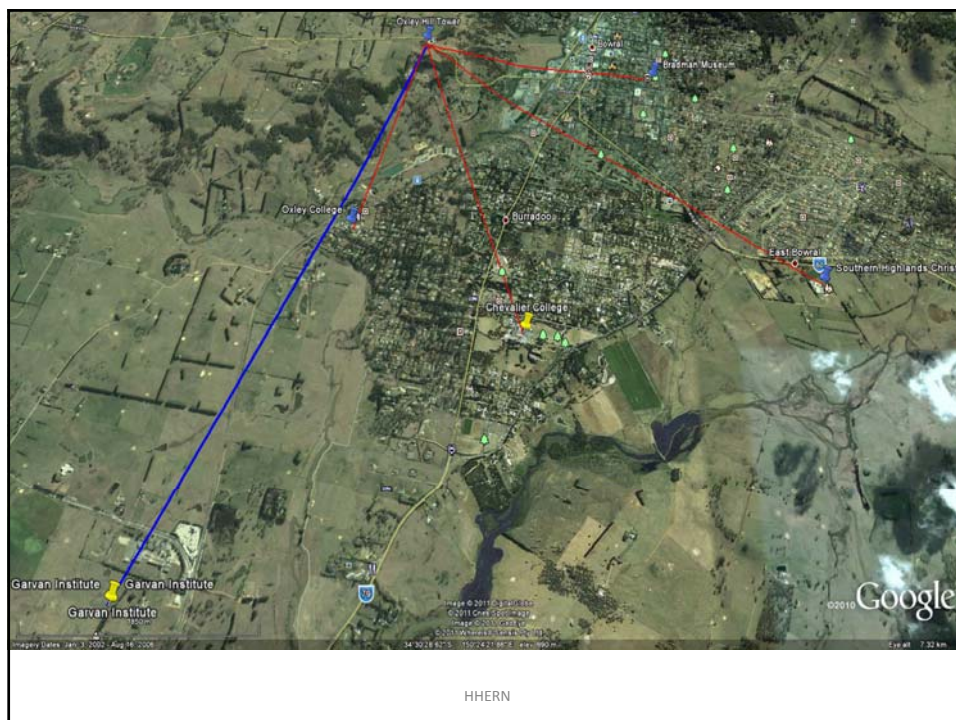


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Summary

- Operating for 16 months
- AARNet connection 100/100Mbps
- 3 Schools with over 2000 students are now connected
- Year to date downloads 4.9 Terabytes
- Same period On Net traffic 2.9 Terabytes
- A range of software has been developed to support shared model

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HHERN THE BEGINING

Thank you

Highlands Health Education Research Network

Over 2000 regional students have an improved education thanks to the people and organisations whose support have made the HHERN project possible.



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