



Extending Unified Communications Based Multimedia Beyond The Enterprise

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Questnet
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	Agenda	
	1. What is the AARNet Unified Communications Exchange. 2. Why are we doing it. 3. What benefits this brings to your organisation. 4. How it works. 5. What are the issues we are working to overcome. 6. What you need to do to get involved. 7. Deployment Status. 8. Our timeframe and development roadmap.	
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	AARNet Unified Communications Exchange – what is it?
3	• AARNet’s next generation multimedia architecture • Enhanced business to business communications

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	AARNet Unified Communications Exchange - Trials underway
4	<i>B2B video without MCU to those you know – our 1st service offering</i> The diagram illustrates a B2B video communication setup. Two 'Enterprise UC' clouds, one for Institution A and one for Institution B, are connected to a central 'AARNet UC-X' cloud. Red arrows show the flow of communication between the clouds. Below each cloud is a video call window showing a person. A central 'MCU' icon is crossed out with a red X, indicating that the system does not require a traditional Media Control Unit for video calls.

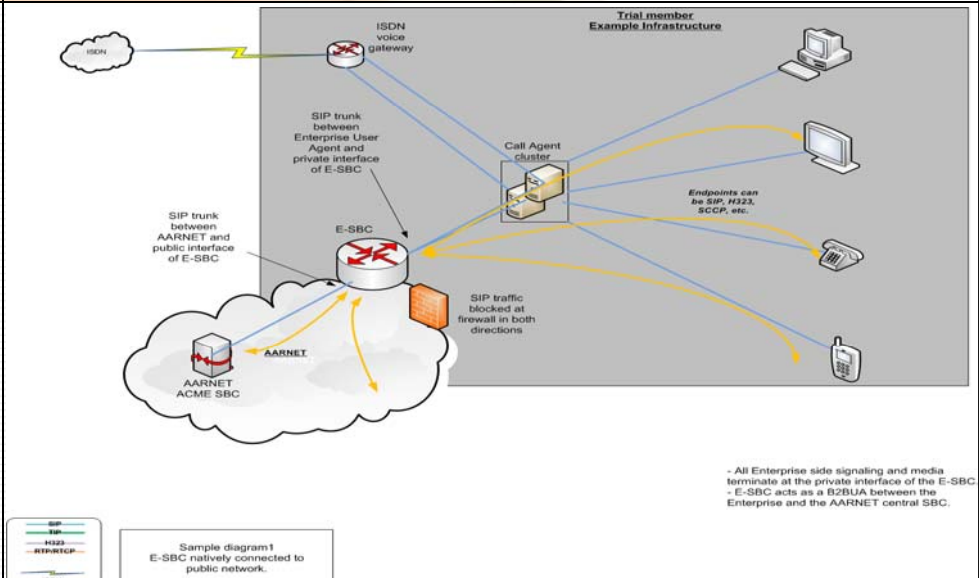
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	AARNet Unified Communications Exchange – what is it?	
	• AARNet's next generation multimedia architecture • Enhanced business to business communications • Flexible service delivery using systems such as Session Border Controllers • Node and POP redundancy out of Sydney	
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	AARNet Unified Communications Exchange – Why are we doing it?	
	• Alleviate some of the burden off traditional MCU use for Pt to Pt calls. • Provide a robust and reliable business to business video calling solution, using existing IP-PBX solutions. • To simply make it easier for our members to improve collaboration using rich media communications that just works. • To provide a proven carrier class SIP environment. • To enhance our existing H.323 environment	
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	AARNet Unified Communications Exchange – Benefits to your organisation
7	• Point to point video using existing IP-PBX capable communications systems. Takes away many of the complexities of video calling. • Reduction in Telecommunication call costs (domestic & international). • Improved inter Institution communications. Cross Institution research groups. • Single trusted endpoint for signaling and media. Trunk setup, setup once and don't touch.

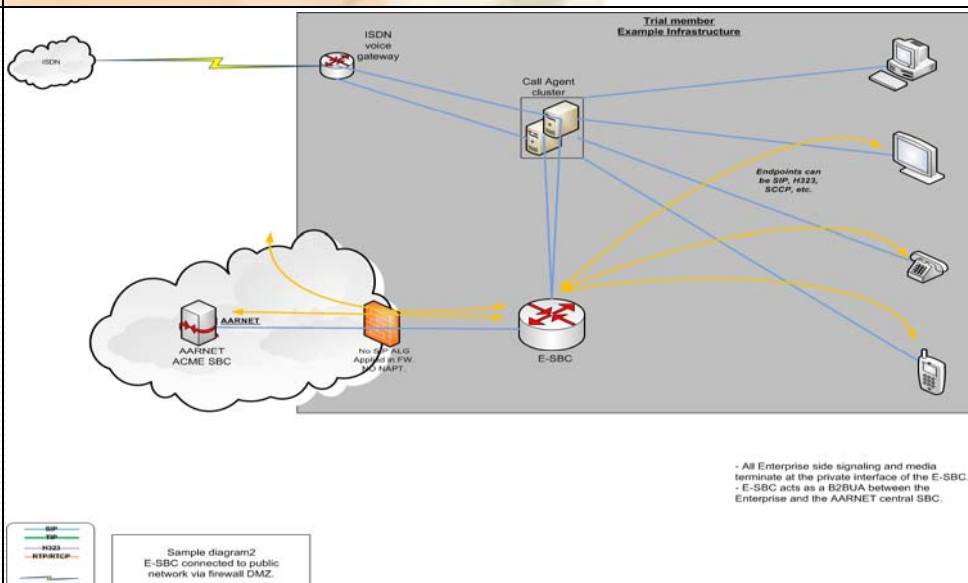
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	AARNet Unified Communications Exchange – How it works
8	• Lynchpin of our architecture centers around the Acme Packet Session Border Controller (SBC). • Initial offering - connecting and integrating the IP-PBX's of our members using SIP trunking. • SBC behaves as a multimedia switch between each participating Institution. • Call routing based on E.164 number dialing. Dial plan based on either 10 digit dial or E.164 International dialing including the leading plus "+". Eg +61297796952. • Certification/validation process.

AARNet Unified Communications Exchange – E-SBC native



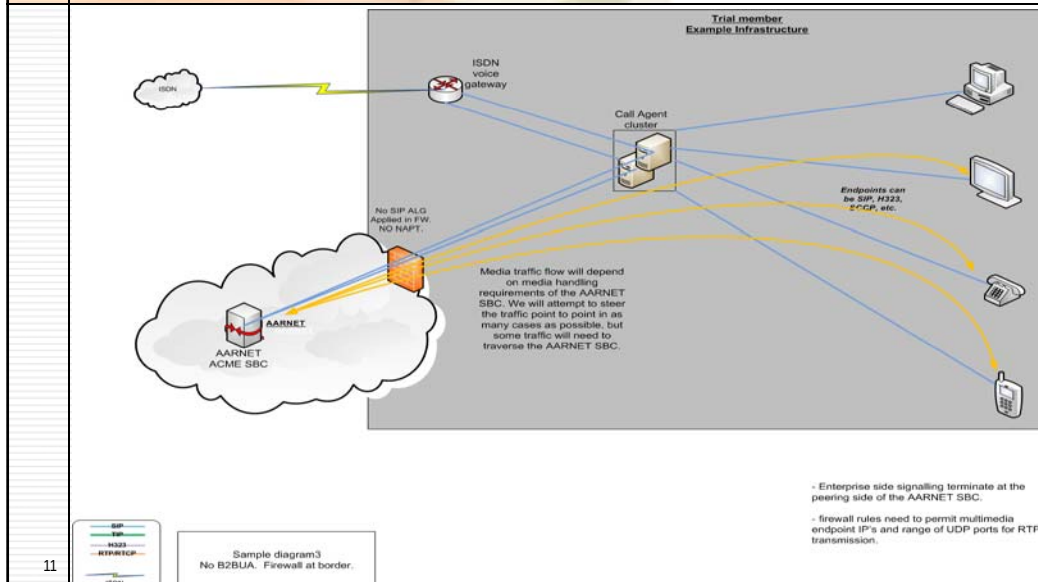
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AARNet Unified Communications Exchange – E-SBC via DMZ

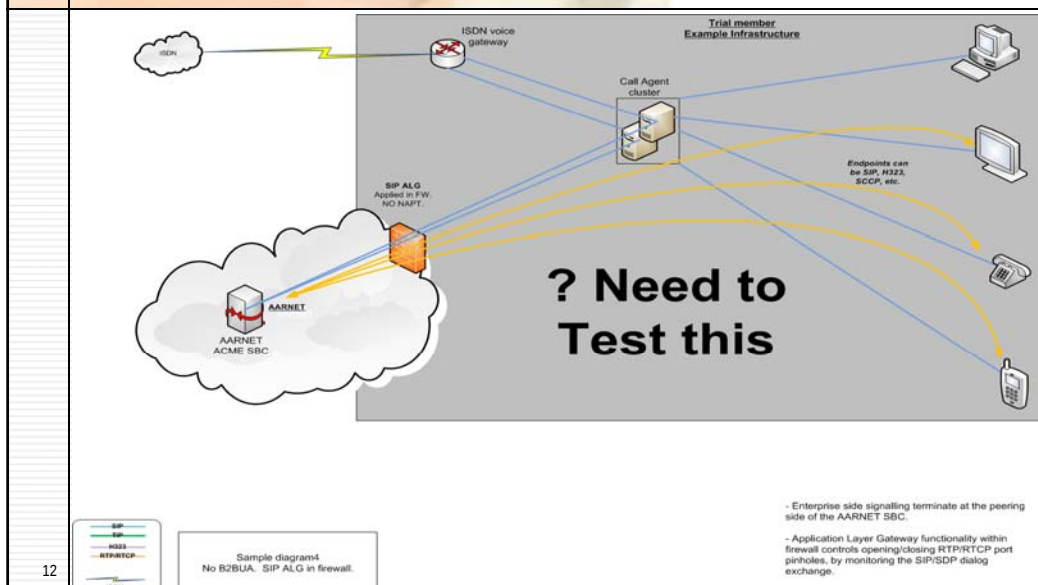


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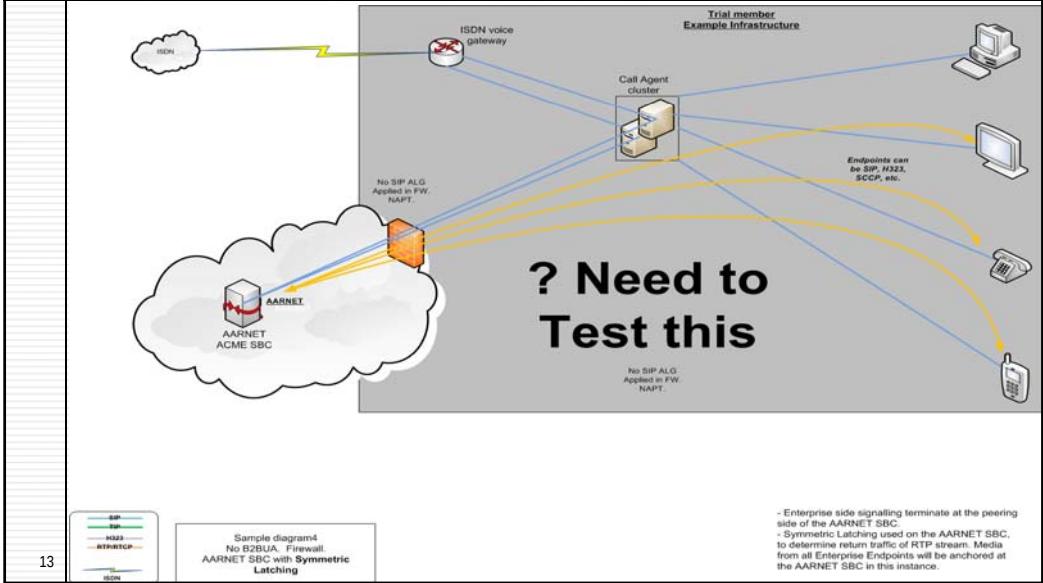
AARNet Unified Communications Exchange – Firewall with no B2BUA



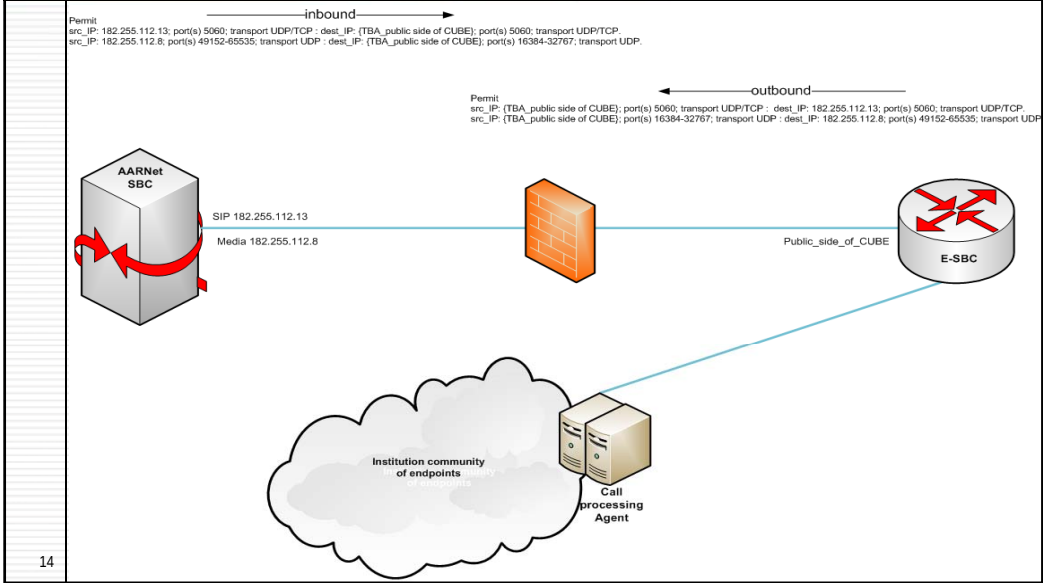
AARNet Unified Communications Exchange – Firewall with ALG



AARNet Unified Communications Exchange – Firewall using NATP



AARNet Unified Communications Exchange – Firewall IP & port example



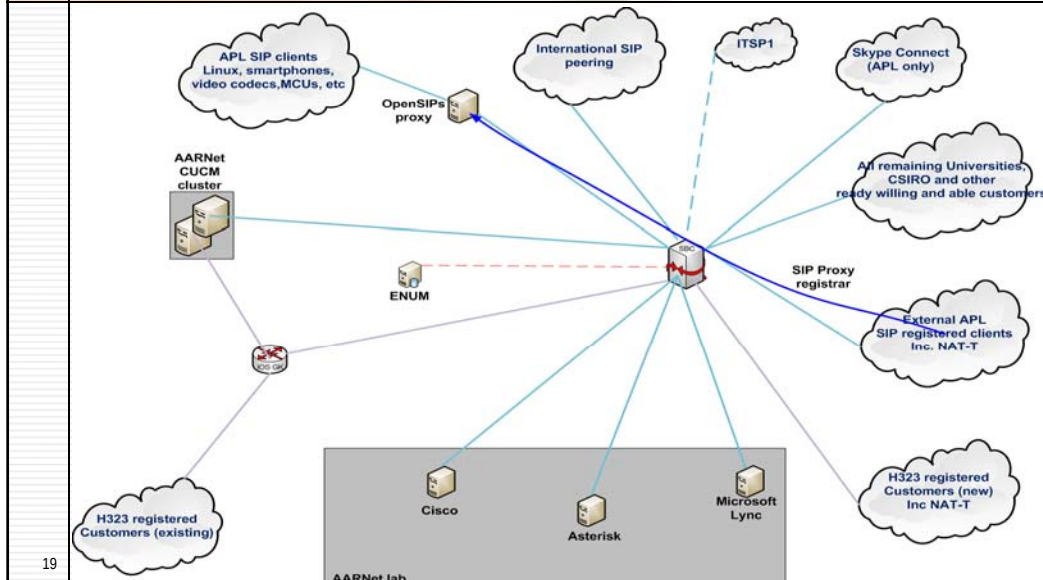
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	AARNet Unified Communications Exchange – Issues we are working to overcome	
	• Long term MCU resource management • Signaling incompatibilities • Common Issues caused by firewall traversal on multimedia signaling. • IPv4 to IPv6 Interworking. • SIP to H.323 Interworking. Very very challenging. • Video codec incompatibilities (vendor implementations). Again very challenging.	
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	AARNet Unified Communications Exchange – How to get involved	
	• Email expression of interest to get involved for the Trial: • Bill.efthimiou@aar.net.edu.au • Leon.li@aar.net.edu.au • Together we assess your infrastructure readiness. • Do you have a SIP capable IP-PBX? • How will you traverse your network border? • Network status: bandwidth, congestion, QOS, etc. • See public wiki page: https://wiki.aar.net.edu.au/display/UCX/Home • What does it cost. \$ = zero. Time with you responsible engineers. Maybe some infrastructure costs, but depends on your readiness and firewall traversal requirements. • Video capable endpoints. \$???	
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	AARNet Unified Communications Exchange - Deployment Status
17	• Dual node SBC installed at Sydney POP-A and Sydney POP-B • 10GB optical connection between POPs. • 1GB redundant connection between POPs. • All AARNet SIP based equipment connected to SBC • 5 customers connected to new service and are currently trialing and testing the service. Effectively assisting AARNet develop the service before official public launch. • The service will initially be based on E.164 number routing. URI routing using FQDN and DNS will be added soon. • Very interested in connecting anyone using Microsoft Lync or Avaya solutions. • Next group of 3 customers to be planned and scheduled in the next month. • For further details: https://wiki.aarnet.edu.au/display/UCX/Home • Or contact: Bill.efthimiou@aarnet.edu.au or leon.li@aarnet.edu.au

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	AARNet Unified Communications Exchange – Timeframe and Roadmap								
18	<table border="1"> <thead> <tr> <th>Date</th><th>Description</th></tr> </thead> <tbody> <tr> <td>30-Sep-11</td><td> Conclude Extensive Testing with current Trial Institutions Document certified video endpoints Conclude Extensive Testing with APAN connected Institutions </td></tr> <tr> <td>30-Dec-11</td><td> Integrate AARNet MCU's Move to a complete production (non Trial) version for SIP trunking based on UDP or TCP Begin Trialing H.323 trunks and integrate existing H.323 infrastructure Begin Trialing IPv6 SIP trunk Expand list of certified video endpoints (multi-vendor & 3rd party) Skype SIP connect (APL only) sorry Basic customer facing reporting via portal </td></tr> <tr> <td>30-Mar-12</td><td> Begin Trialing SIP TLS trunk Begin Trial private ENUM for dynamic SIP and H.323 routing Expand list of certified video endpoints (multi-vendor & 3rd party) </td></tr> </tbody> </table>	Date	Description	30-Sep-11	Conclude Extensive Testing with current Trial Institutions Document certified video endpoints Conclude Extensive Testing with APAN connected Institutions	30-Dec-11	Integrate AARNet MCU's Move to a complete production (non Trial) version for SIP trunking based on UDP or TCP Begin Trialing H.323 trunks and integrate existing H.323 infrastructure Begin Trialing IPv6 SIP trunk Expand list of certified video endpoints (multi-vendor & 3rd party) Skype SIP connect (APL only) sorry Basic customer facing reporting via portal	30-Mar-12	Begin Trialing SIP TLS trunk Begin Trial private ENUM for dynamic SIP and H.323 routing Expand list of certified video endpoints (multi-vendor & 3rd party)
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AARNet Unified Communications Exchange – Planned



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[AARNet UC-X](https://wiki.aarnet.edu.au/display/UCX/Home)

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Thank You

Questions ?