

Update of Ankabut Nov 2010

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Manager Member Relations &
Communications



Cabinet releases: UAE Vision 2021



3.3 Knowledge-based and highly productive economy

Innovation, research, science and technology will form the pillars of a knowledge-based, highly productive and competitive economy, driven by entrepreneurs in a business-friendly environment where public and private sectors form effective partnerships

Outstanding information and communication infrastructure will network our businesses together and give them a leading edge as they transact and interact with the world. Individual citizens will also reap the benefits of efficient connectedness in their digital lives as they search online for knowledge and the fulfillment of intellectual curiosity.

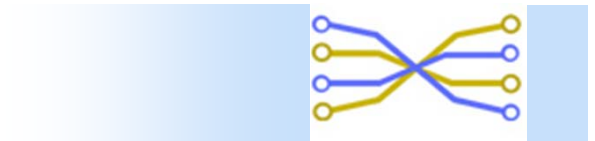
4 First-rate education

All Emiratis will have equal opportunity and access to first-rate education that allows them to develop into well-rounded individuals, enhance their educational attainment, and achieve their true potential, contributing positively to society

The UAE will successfully encourage Emiratis to maximize their potential by remaining in school and reaching higher levels of education. School drop-outs rates will fall, university enrolment will rise, and more Emiratis will climb higher up the ladder of learning into post-graduate education.



Network Founding



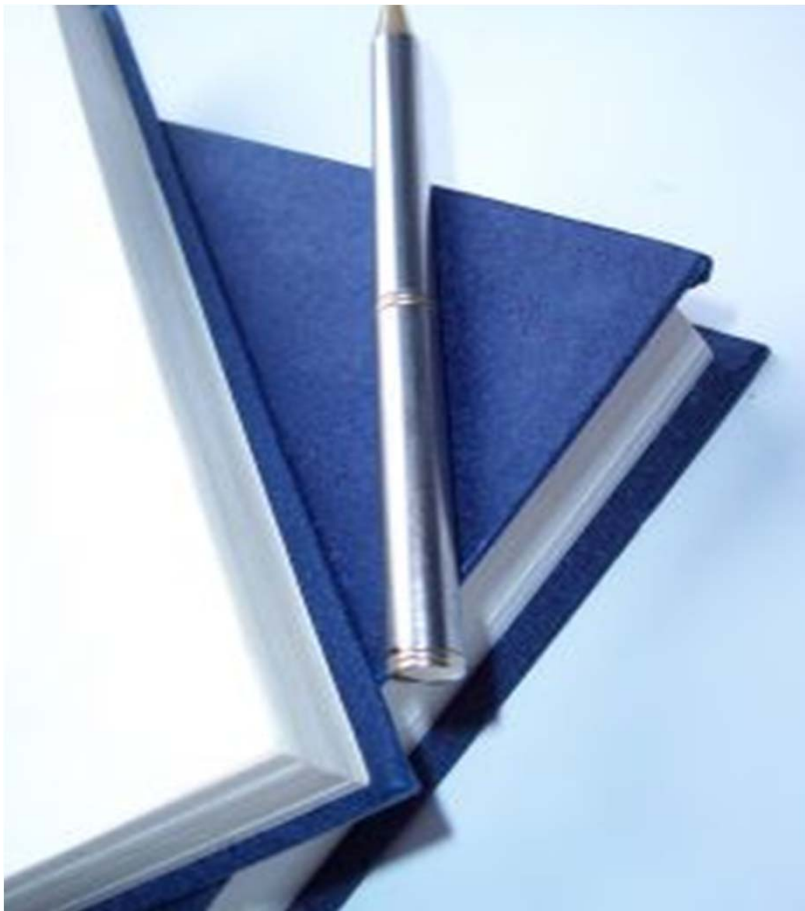
Date	Activity
7-Aug-2006	ANKABUT formation MoU MoU on Establishing a Consortium for UAE Research and Education Network (ANKABUT) KU, IAT, ZU, UAEU, HCT
3-Dec-2006	Internet2 and ANKABUT interconnect MoU MoU between Internet2 and Etisalat University College
27-May-2007	Dante and ANKABUT interconnect MoU MoU between DANTE and Etisalat University College
5-Apr-2009	Funding Agreement is signed between ICT FUND and Khalifa University to fund the ANKABUT Project
5-Jul-2009	Contract is signed between Etisalat and Khalifa University for building a new network for Education and Research in the UAE

Executive Summary




- BGP Routing: Live traffic from UAE University and Khalifa University.
- VPN Connectivity: Live traffic from HCT, IAT, Khalifa University, Zayed University.
- New Connections: Now Surveying Connection Sites
- Network Support: Fault Processes and Escalation Matrixes
- Grid Computing: Good collaboration with EPIKH.








Overview

Routed Connections 

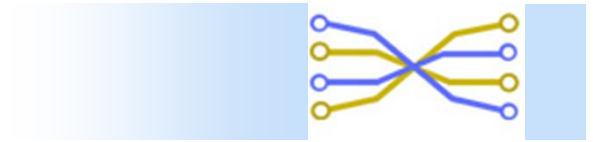
VPN Connections 

New Connection Requests 

Network Support 

Grid Computing  

Setting the scene



ANKABUT Project Objectives

What do we do...

- **Connecting academia to advance IP networking**
- **Establish a forum to discuss collaboration**
- **Encourage collaborative research within the UAE**
- **Provide a mechanism to share lectures**
- **Encourage inter-library access**
- **Increase collaboration with international universities**
- **Connect international institutions to home networks**
- **Enable applications on the IP network**
- **Be on-time with the project schedule**
- **Maintain financial discipline**
- **Provide a mechanism for accurate reporting.**



REPORT NO. 4
ON STATUS OF THE
ANKABUT PROJECT
SEPTEMBER 2010

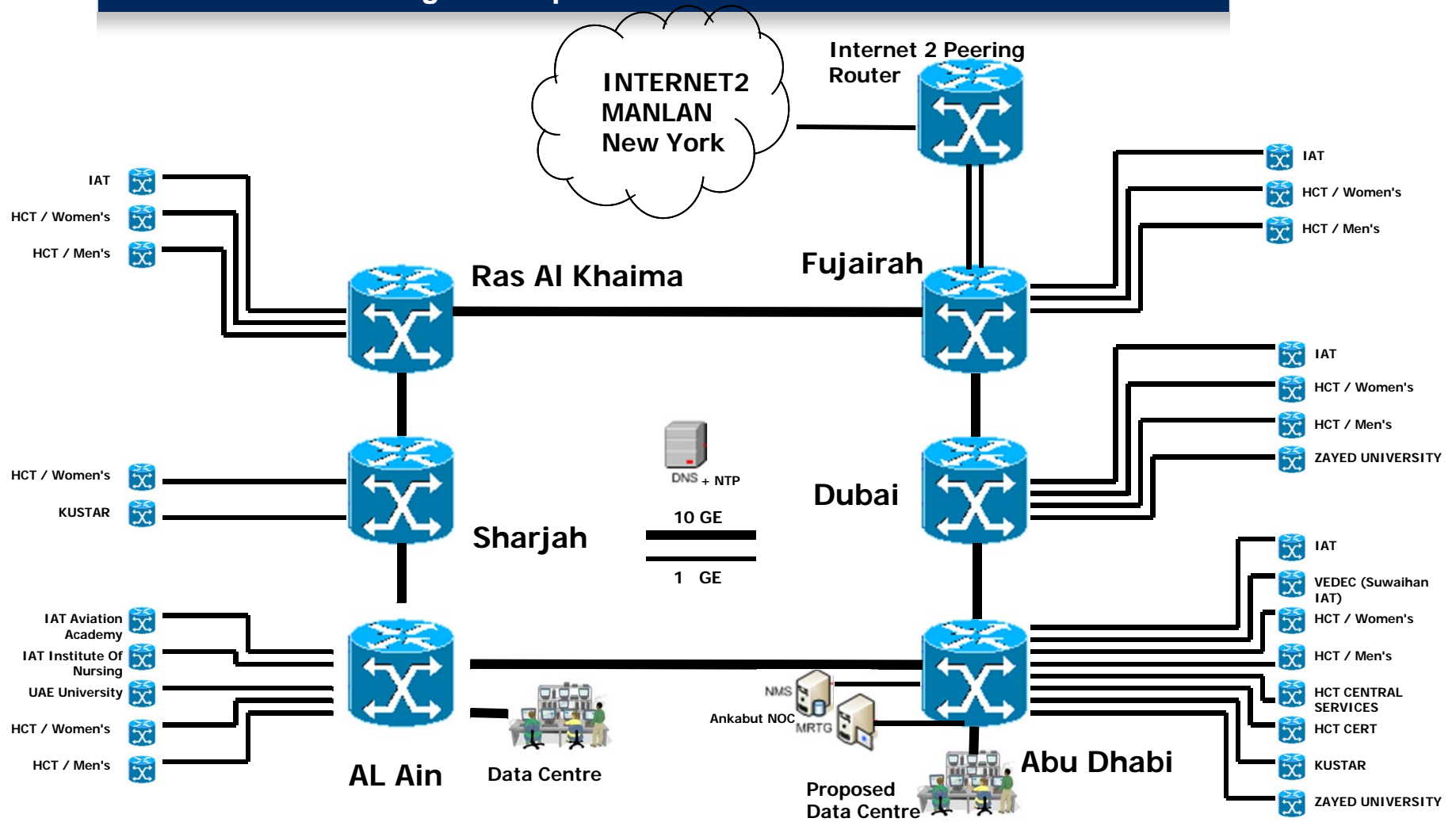
Submitted to
The Information and
Communication Technology Fund
established by the
Telecommunications Regulatory
Authority

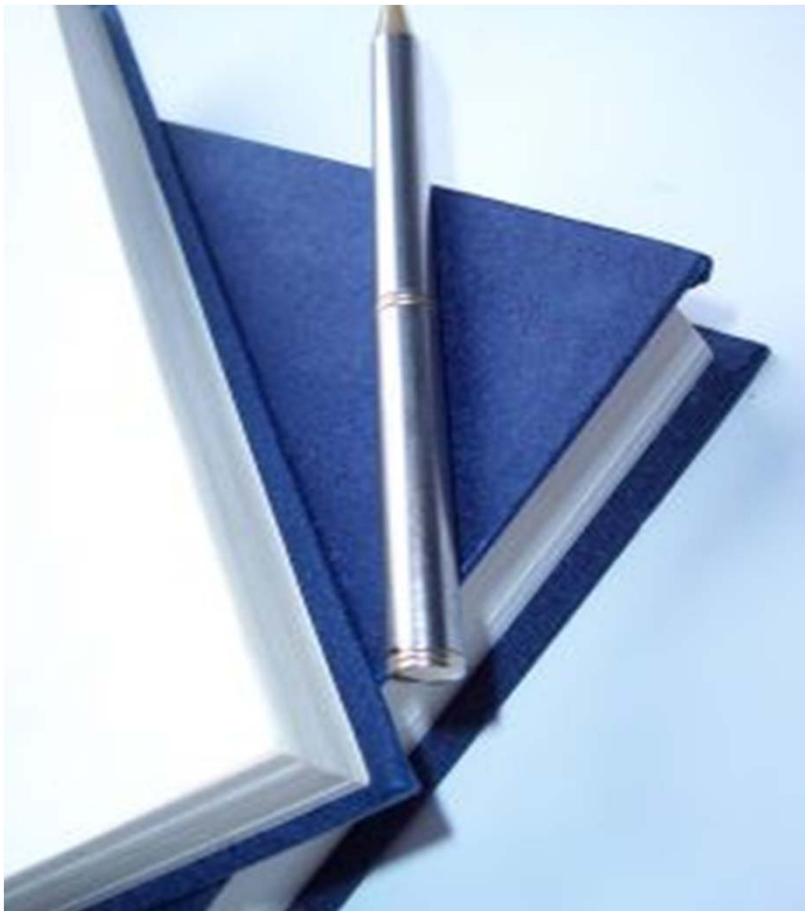
A Report by
the ANKABUT team
30-September-2010

Ankabut National Network



5 Universities covering 24 Campuses





Overview

Routed Connections



VPN Connections



New Connection Requests



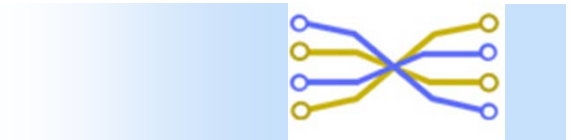
Network Support



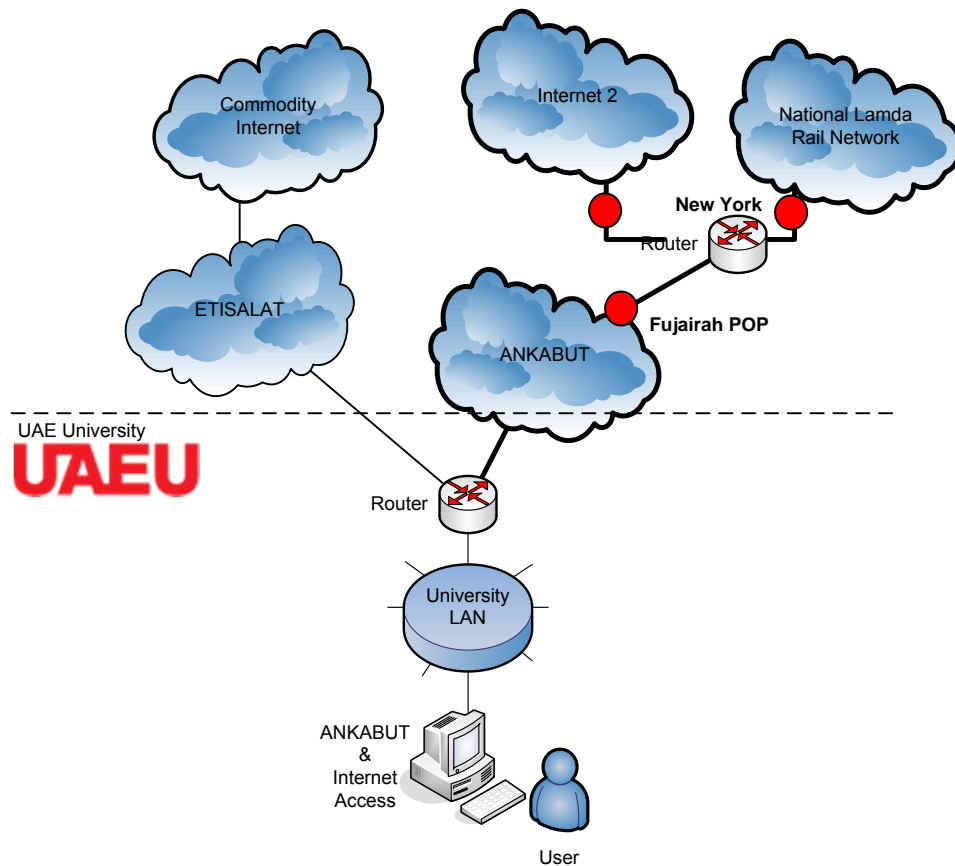
Grid Computing



The Networking Solution



Routed Solution for Large Institutions



 **Monitor Point**

Implemented

- This architecture been deployed at UAE University and Khalifa University

Requirements

- University router should hold 30-50k routes. Presently, 13k are sent from Internet2.
- University required to own their own AS Number, IPv4 and IPv6 address space.

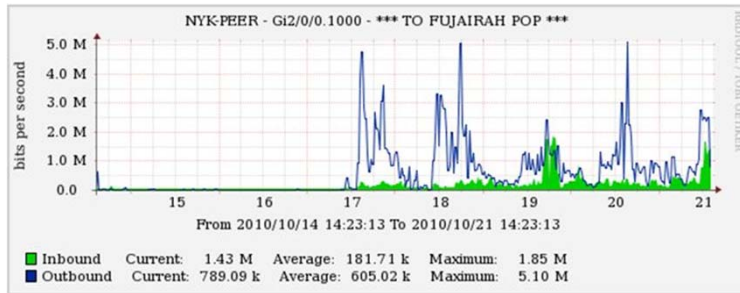
Benefits

- Allows multiple networks to be easily connected
- Simplification of IP address space
- Redundant routes to Internet2 destinations

Live International Traffic



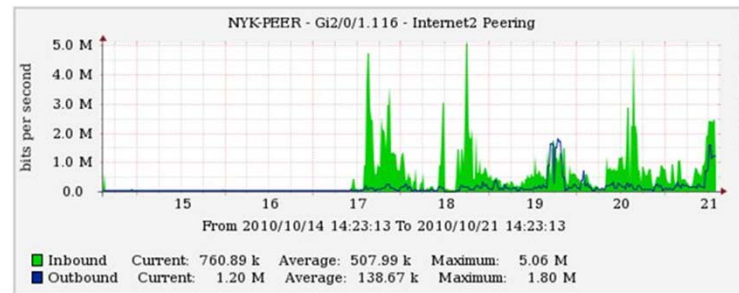
UAE-University International NREN Traffic



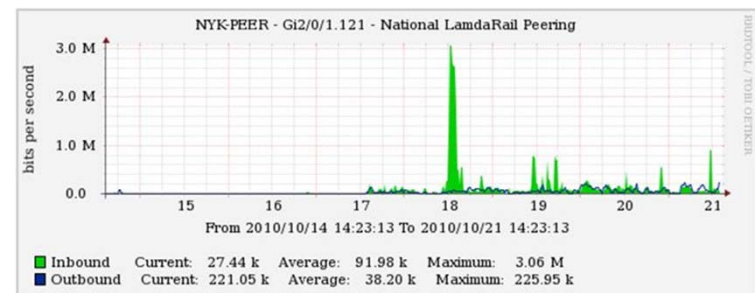
Fujairah POP



Internet 2 Traffic



National Lambda Rail Traffic



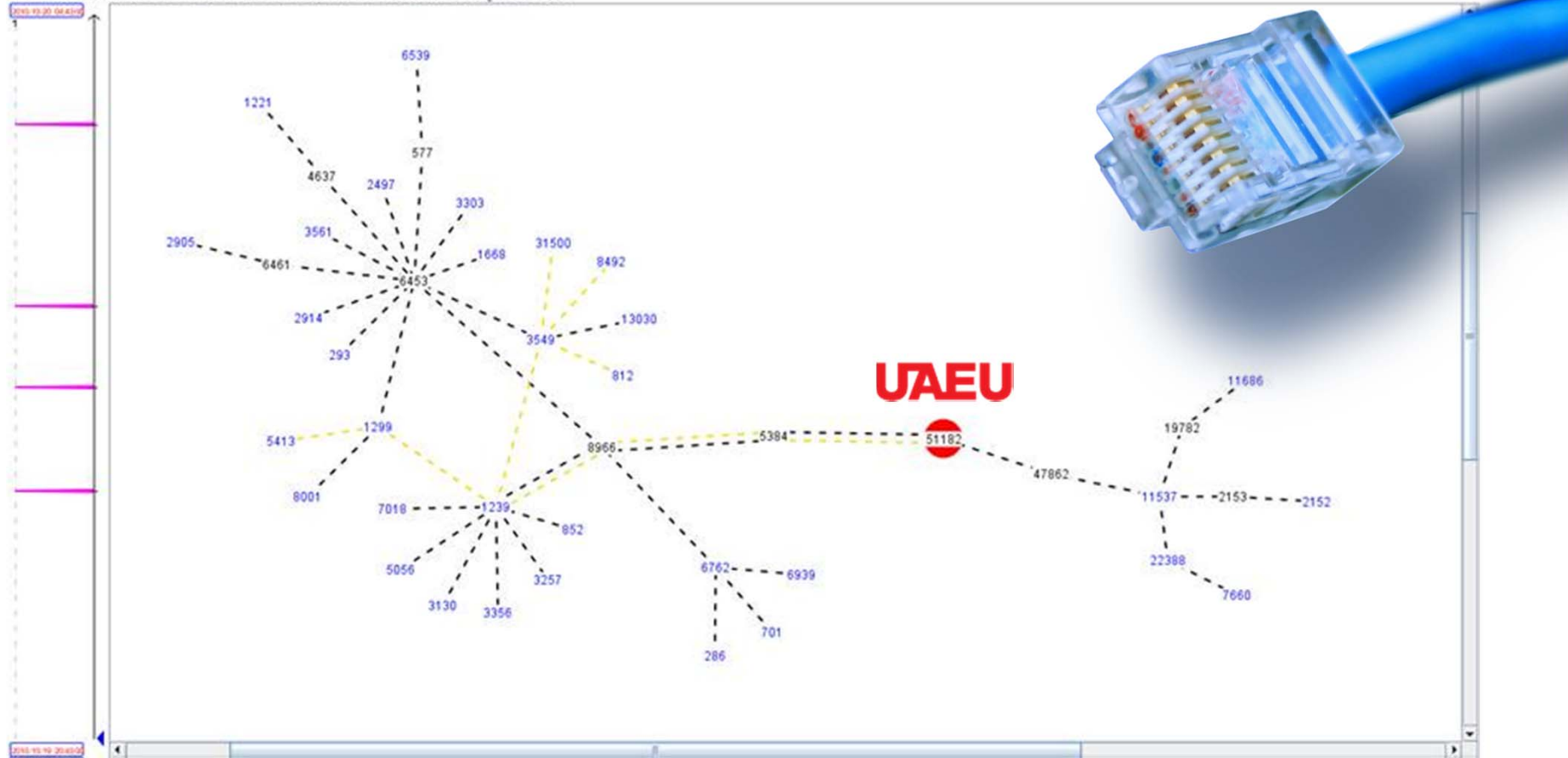
Live International Traffic



UAE-University: The Internet View of the World

BGPplay: changes to prefix 194.69.1.0/24 from 2010-10-19 20:43:00 to 2010-10-20 04:43:00 UTC

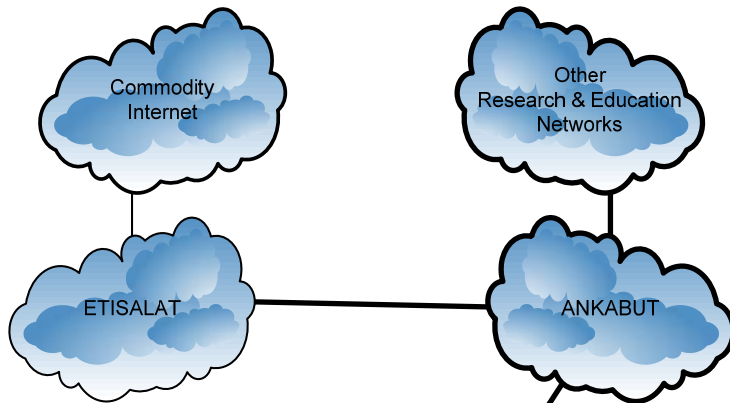
AS47862 ANKABUT Emirates Telecommunications Corporation



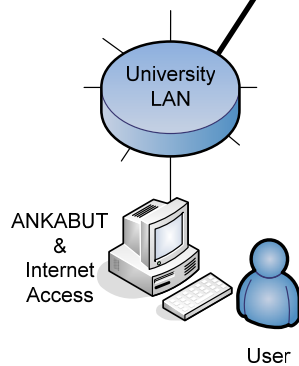
The Networking Solution



Small Institutions: For Future Work



University Environment



Simple for an institution to administer.

Requires no extra-hardware.

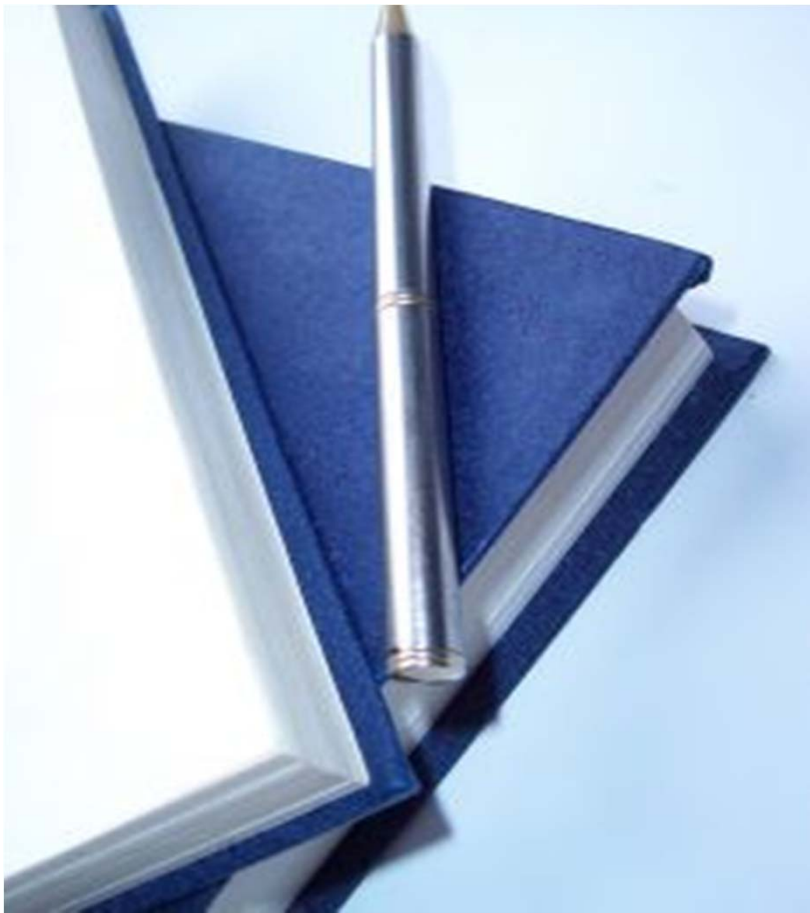
Can used with internet to offer redundancy.

Solution become available to small institutes.

Internet contract remains with present ISP.

IP addressing needs to be altered.





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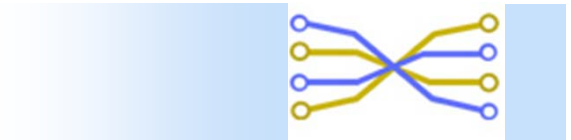
Network Support



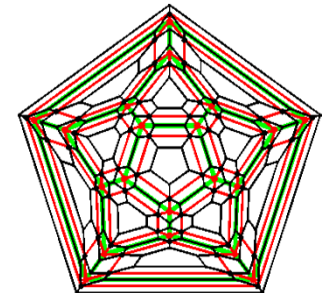
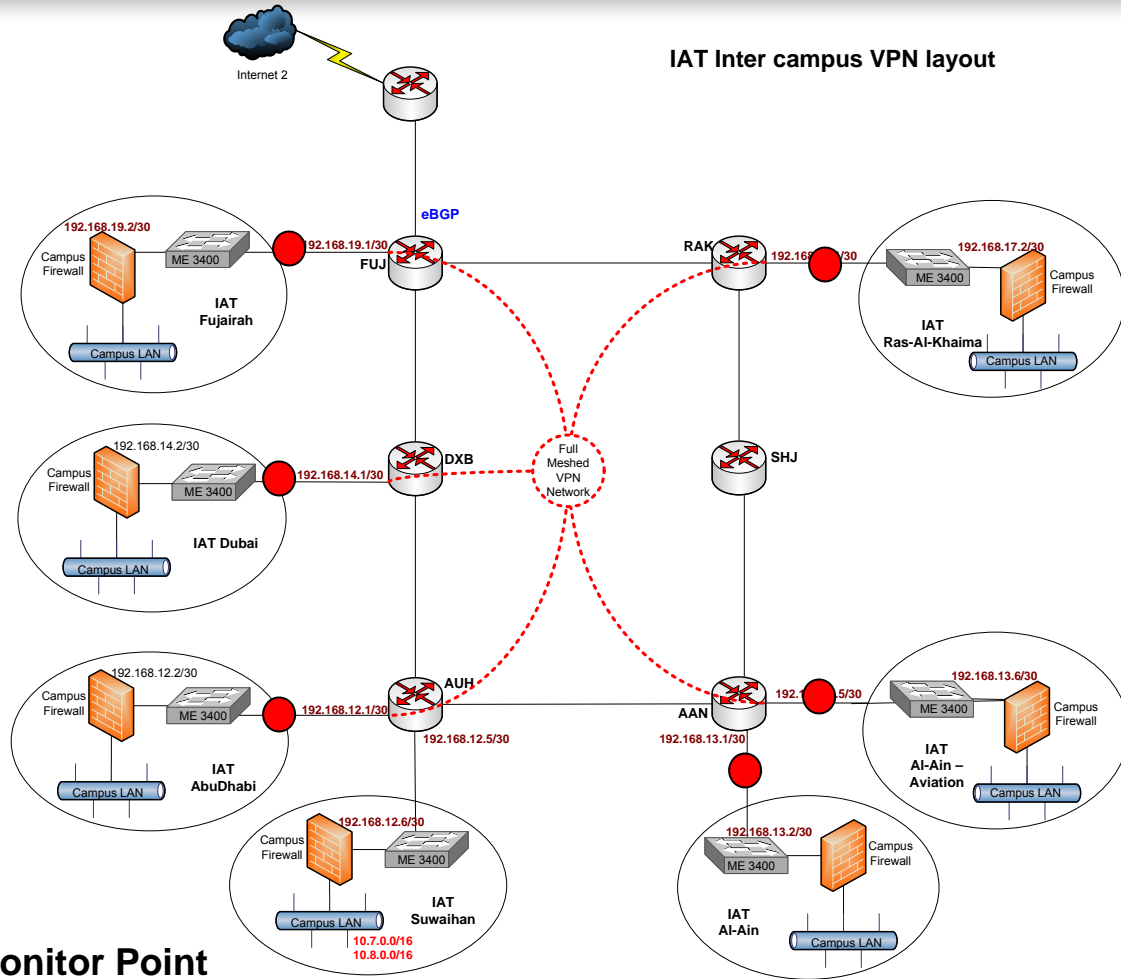
Grid Computing



VPN Connectivity



Institute of Applied Technology - Topology

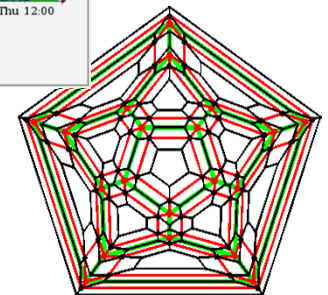
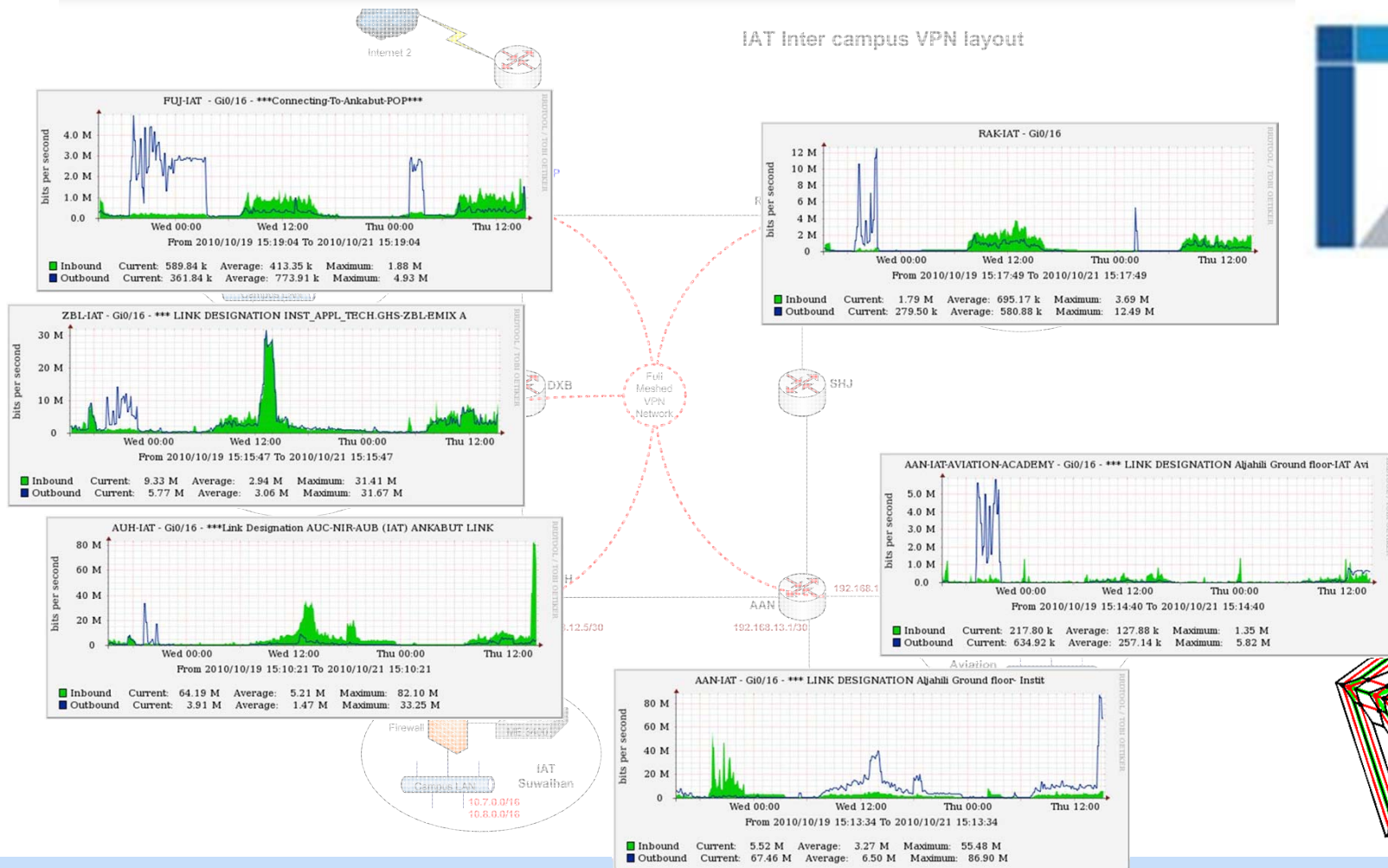


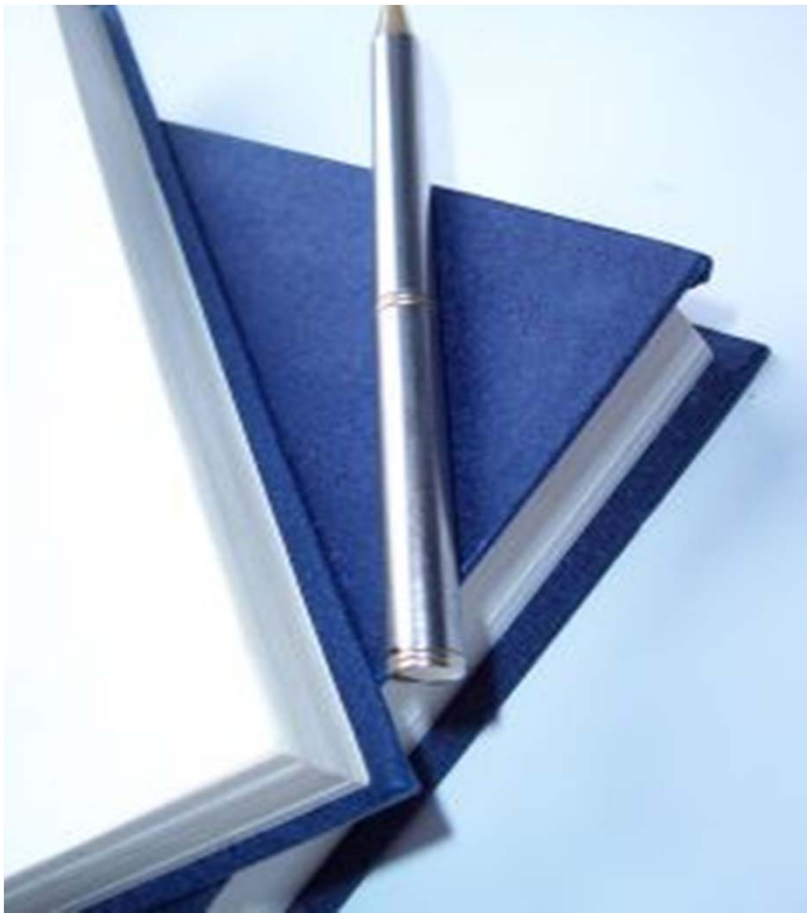
VPN Connectivity



Institute of Applied Technology - Traffic

IAT Inter campus VPN layout





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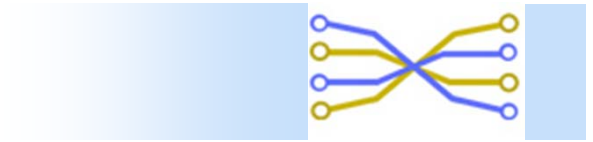
Network Support



Grid Computing



New Connections



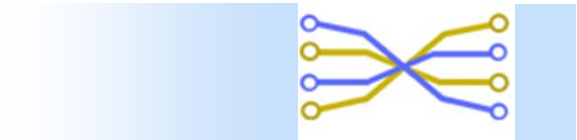
Present Survey List

• Institutions Requesting an Ankabut Connection

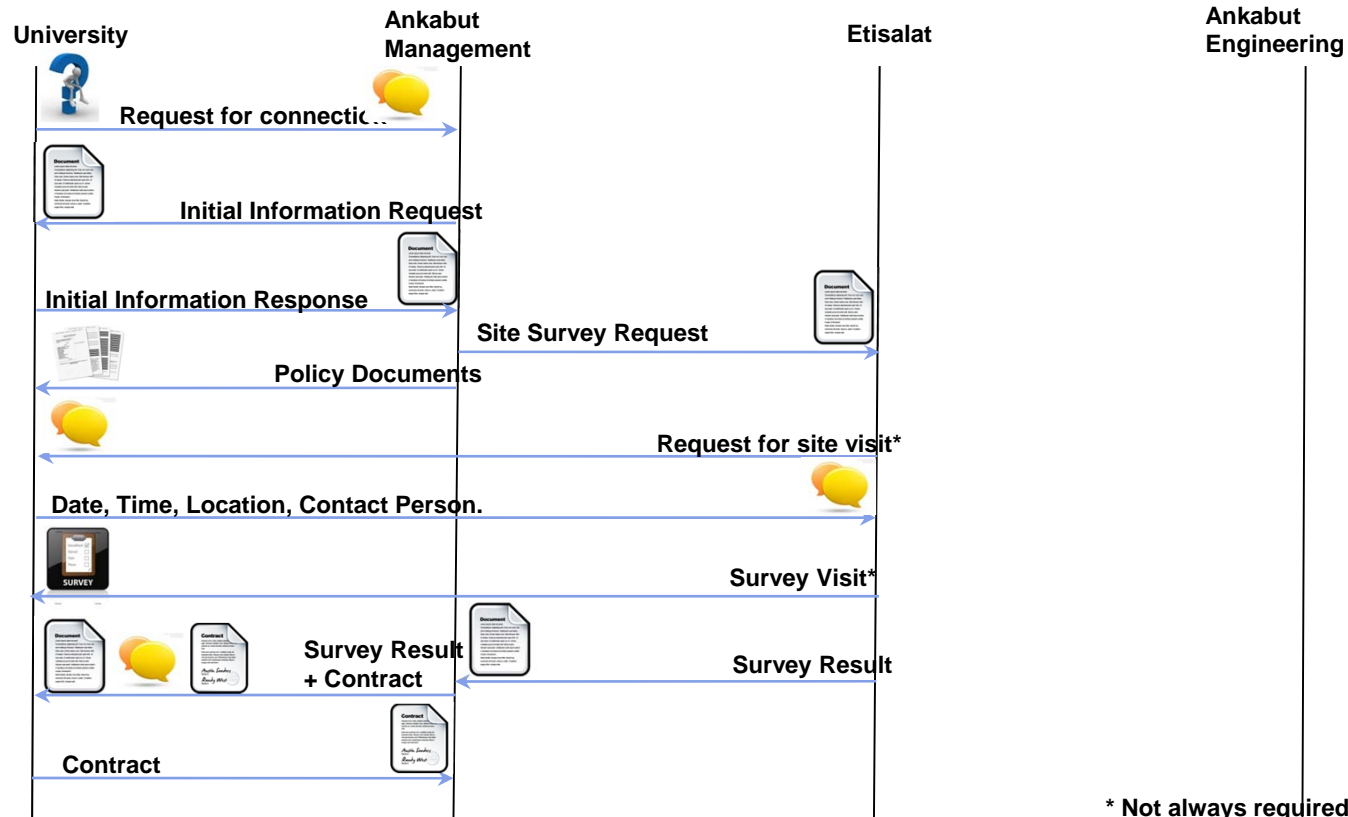
- Rochester Institute of Technology
- New York University
- Masdar Institute
- American University of Sharjah
- Abu-Dhabi University
- The Petroleum Institute
- Institute of Applied Technology *3
- Higher College of Technology *3
- Zayed University *2
- American University of Dubai
- John Hopkins Medical
- Abu Dhabi Vocational Education and Training Institute *3
- ALHOSN University



New Connections



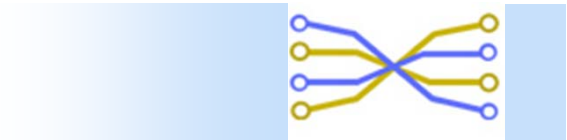
Sign-Up Process



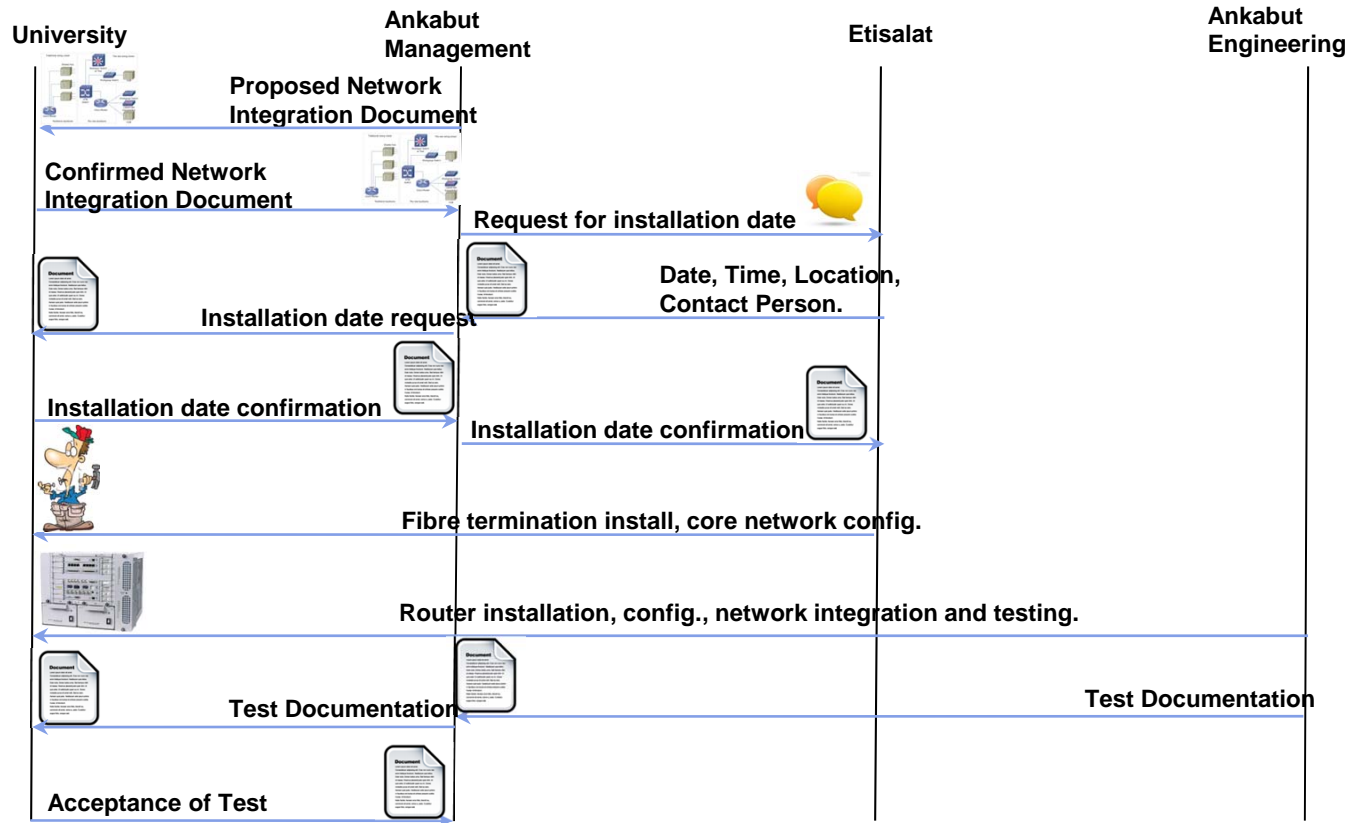
* Not always required

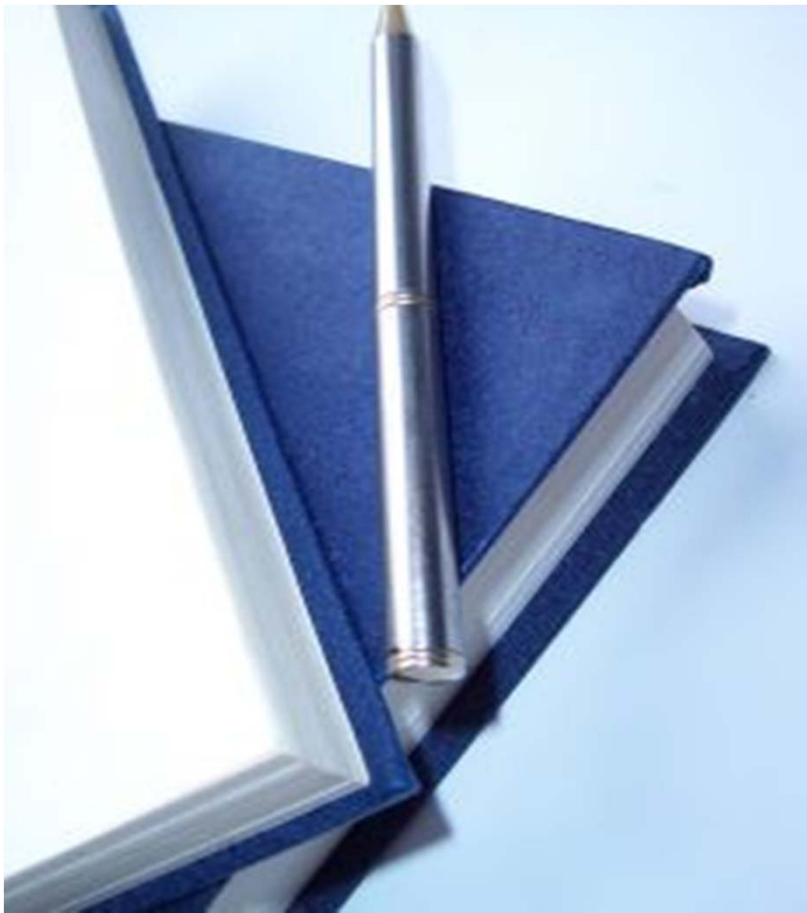


New Connections



Installation Process





Overview

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VPN Connections



New Connection Requests



Network Support

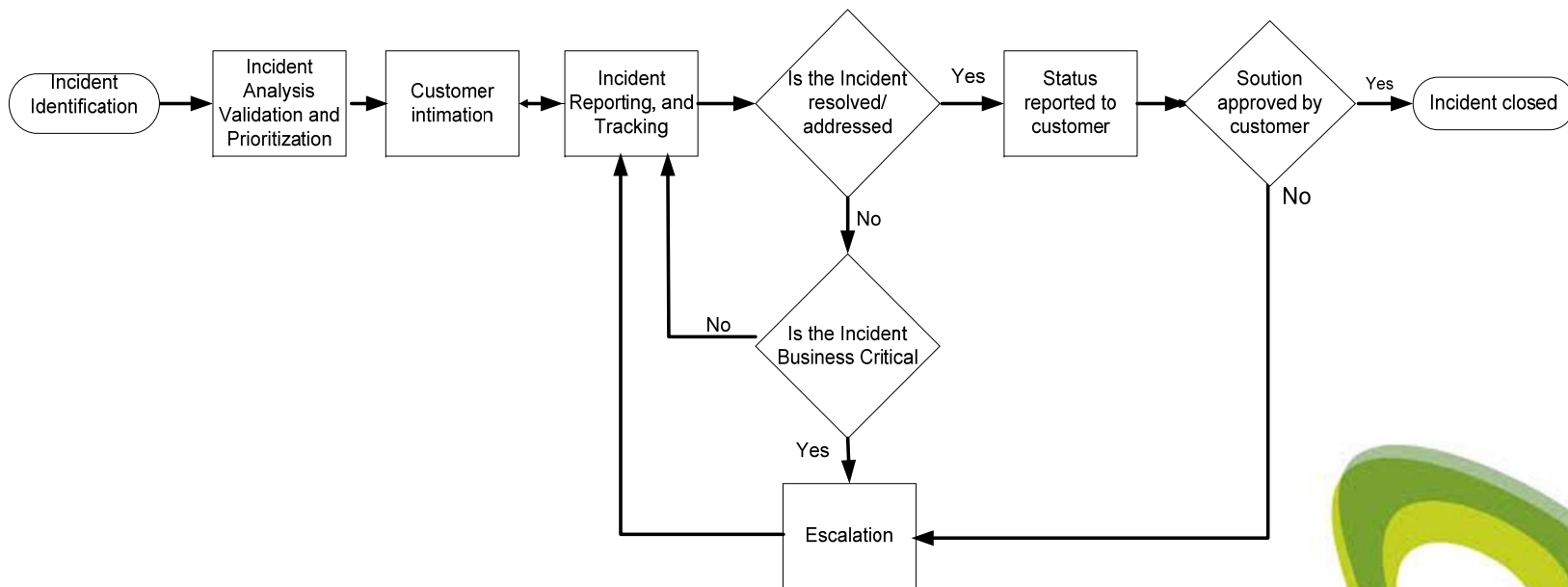


Grid Computing

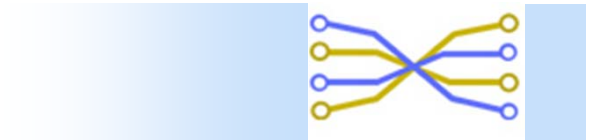




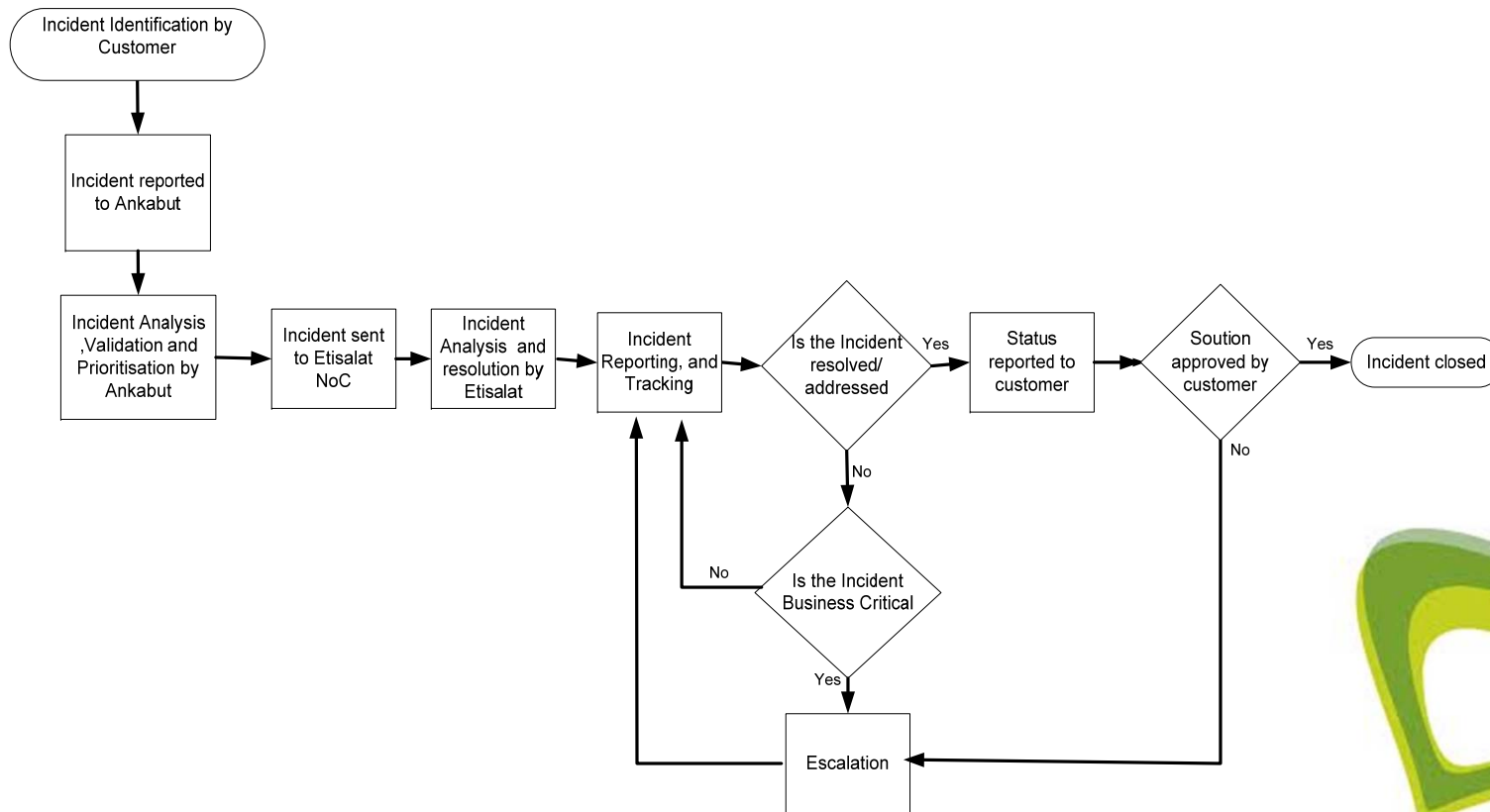
Procedure Diagram Ankabut



Network Support



Procedure Diagram by Customer



Issue Identified by the End User (Reactive)



Network Support

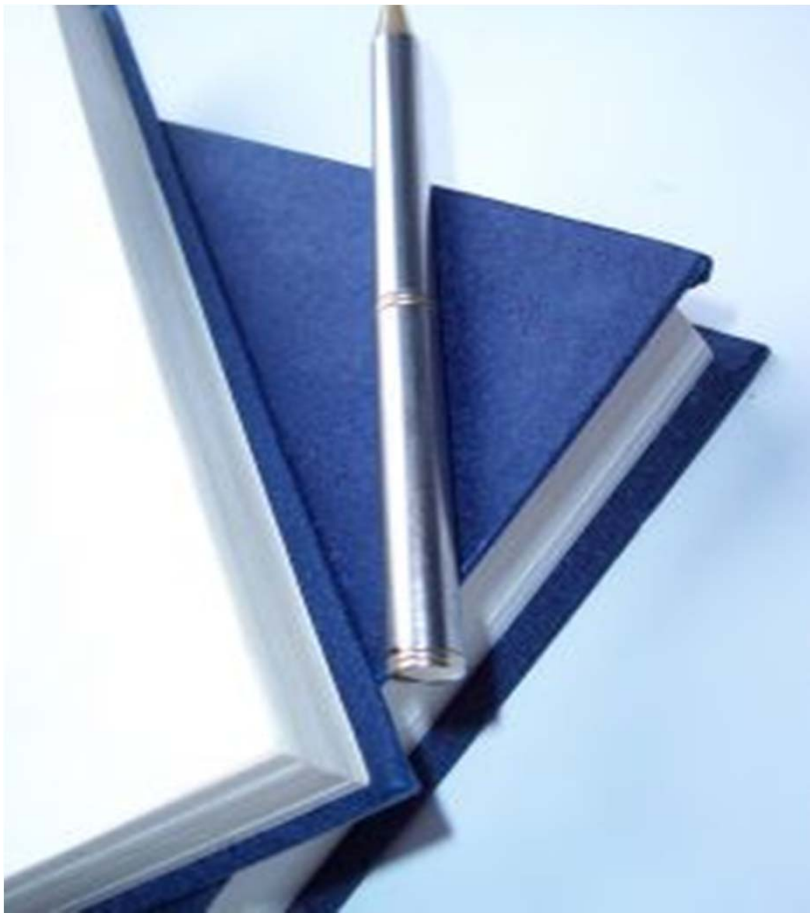


Escalation Matrix

Quarter X 201X Escalation (Section Name)								
Service & Group		Escalation			Further Escalation			
Service Group		1st Level		2nd Level	3rd Level	1	2	3
		1st on call	2nd on call					
Ankabut Network		Abdul waheed	Junaid	Waleed Al Mesmari				
		Junaid	Abdul Waheed					
					Omar al Mansoori	Ansar Al Kyani	Ahmed Al Raeesi	Naeem Fekri

Contact Details			
Staff Name	Ext	Mobile	Email
Junaid	84-2852	056-6040261	mohammad.junaid@emix.net.ae
Abdul Waheed	84-5182	050-8759627	abdul.ghaffar@emix.net.ae
Waleed Al Mesmari	84-5156	050-6492007	waleed@emix.net.ae
SM/Omar Al Mansoori	84-5158	050-4433301	oalmansoori@etisalat.ae
D/Ansar Al Kayani	84-5321	050-4435779	aalkyani@etisalat.ae
Ahmed Al Raeesi	84-5353	050-6339987	araeesi@etisalat.ae
Naeem Fekri	84-5323	050-6411004	nfekri@etisalat.ae





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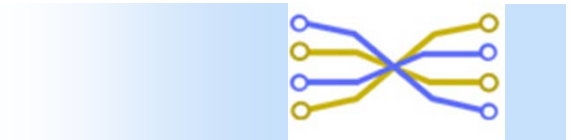
Network Support



Grid Computing



Ankabut Grid Computing



Ankabut has participated in the Grid-Computing School

ANKABUT network has participated in the Joint EUMEDGRID-Support/EPIKH School for Computing Grids.

Ankabut has built up a seed system for the National Grid initiative in the UAE. Ankabut can dispatch jobs on to the world's grid system using the G-lite middleware.



The Grid Site in Abu Dhabi is the first grid site ever installed in the GCC as part of the EUMEDGRID-Support e-Infrastructure.



To facilitate the grid process and security measures needed to enable and secure the technology. ANKABUT Network is now registered as an official Registration Authority to the INFN Certification Authority in the UAE for the Grid initiative.



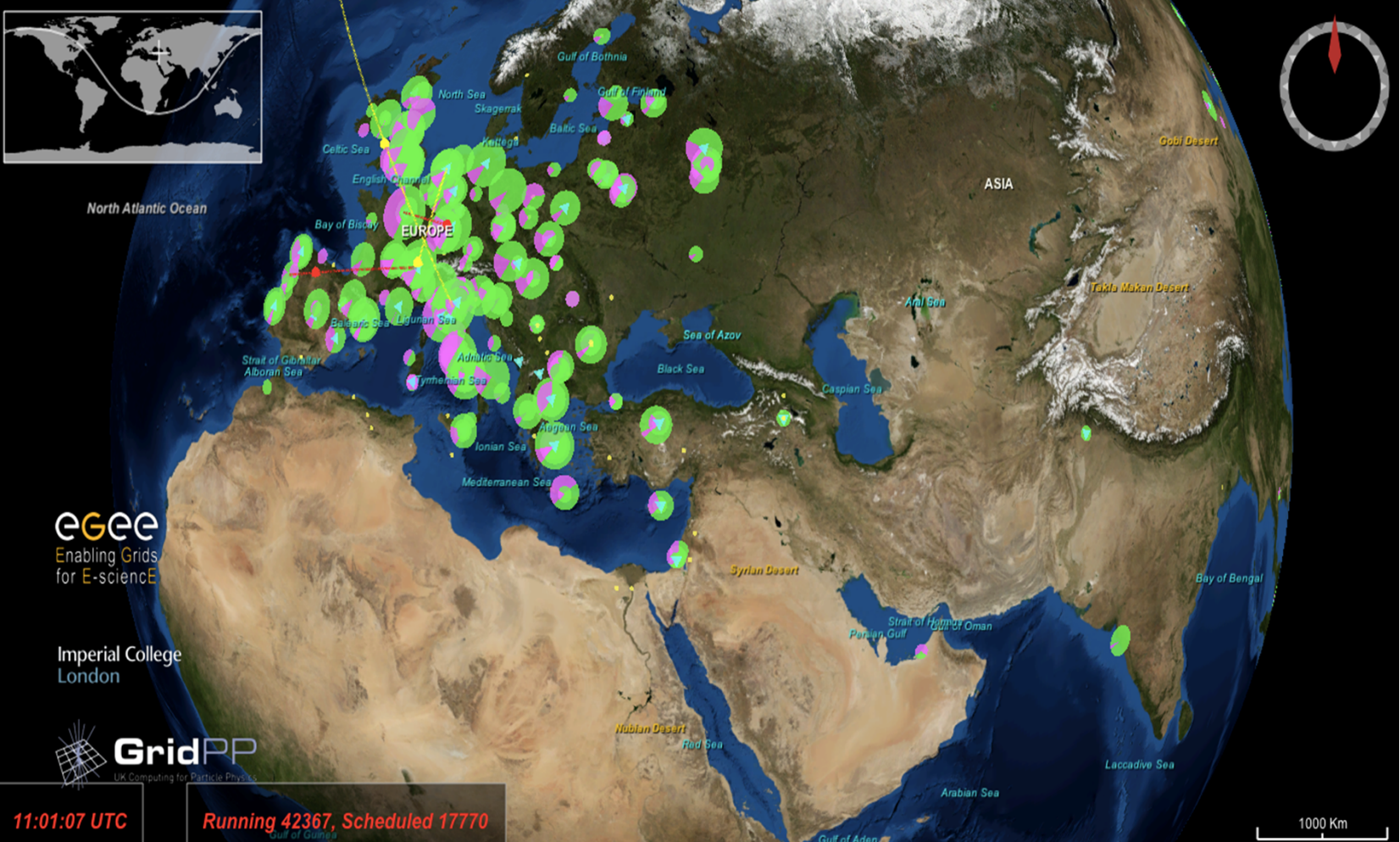
Ankabut is seeking Grid partners to grow the distributed computing environment within the UAE.

Badr Hubais is the Ankabut point of contact.

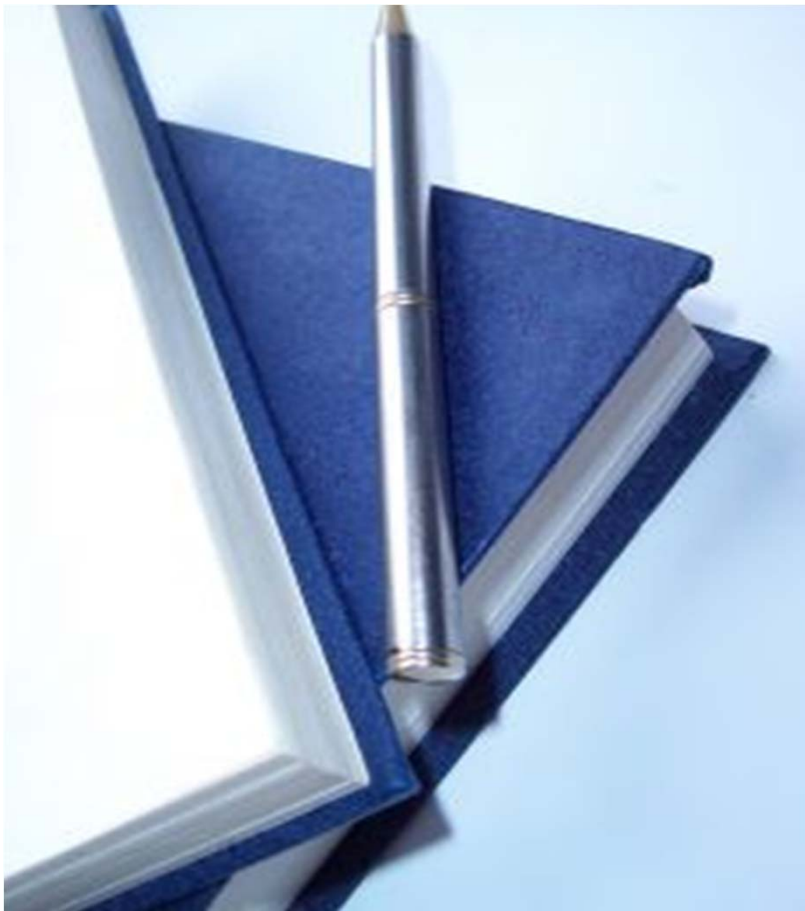
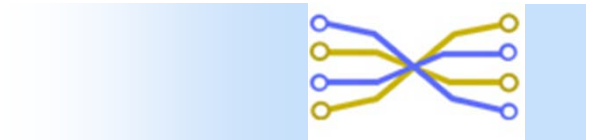
Ankabut Grid Computing



Ankabut is on the World Grid Map



Conclusion



Overview

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Network Support



Grid Computing



Conclusions

The Ankabut network has made major progress in the last 6 months.

- VPN Connections are established
- BGPv4 is up and running, international traffic is flowing.
- Work is progressing well on “Default Route” method of Connectivity.
- **UAE-University is first IPv6 enabled University in UAE.**



New Connectivity is important to the project.

- Ankabut has been working on ensuring that the correct connectivity exists for it's members.
- Procedures have been defined for sign-up and installation and all documentation has been drafted.
- Ankabut wishes to accelerate the connection provisioning



Ankabut Acknowledges the importance of network support.

- Ankabut personnel work with Etisalat on a daily basis, and is able to interact well to determine any network faults.
- Etisalat is contracted for 24/7 network support using their national NoC.



Ankabut is bringing new applications on to the Ankabut network.

- **The Grid Site Abu Dhabi is the first grid site ever installed in the GCC as part of the EUMEDGRID-Support e-Infrastructure**

