Providing IT Networks to the researchers - can we support À la carte?

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Providing IT Networks to the researchers - can we support À la carte?

1. À la carte? - reference to research requests
2. Overview of standard network offerings at QUT
3. Examples of current/recent requests
4. The requests that are coming?
À la carte? 

À la carte /ælæ kɔrt/ is a French language loan phrase meaning "according to the menu", and used in:

- A reference to a menu of items priced and ordered separately, i.e. the usual operation of restaurants (In contrast to a table d’hôte, at which a menu with limited or no choice is served at a fixed price.)
- To order an item from the menu on its own, e.g. a steak without the potatoes and vegetables is steak à la carte
À la carte network?

- Wireless, without the authentication
- Internet access, without the authentication
- Server provisioning, without the firewall with the user as Administrator
Standard QUT network offering vs À la carte

**QUT Network Menu**

**QUT Wireless Network**
- "QUT" SSID
  - Available to all QUT staff & students on all campuses
- "Edumac" SSID
  - All the things you love from "QUT" and also available to all Edumac members

**QUT Wired Network**
- Standard wired port (1 Gbps)
  - High speed 1 Gbps port with access to all campus systems & the internet – pick your own IP address
  - $5
- Server port (10 Gbps)
  - High speed 10 Gbps port, mounting firewall, protection, patching and password policy, backup plan
  - $8

**QUT a la carte Menu**

**QUT Wireless Network**
- $5

**QUT Wired Network**
- Standard wired port (1 Gbps)
  - High speed 1 Gbps port with access to all campus systems & the internet – pick your own IP address
  - $5
- Server port (10 Gbps)
  - High speed 10 Gbps port – pick from your choice of firewall, backup and remote solutions
How do we approach such requests?

Request further information….

“What are you really trying to achieve?”

“What is the outcome you are looking for?”
Example 1 – Wireless access for robotics

- Requirement
  - Wireless for robots that don’t support 802.1x
  - Access required can be specific areas or all of campus
  - Various equipment with specific requirements
Example 1 – Wireless access for robotics

- Possible solutions
  - The obvious – identify alternative devices that support Enterprise authentication
  - Install a specific local wireless network
  - Establish multiple SSID’s (per application)
Example 1 – Wireless access for robotics

• Challenges

  – Multiple SSID’s (per application)

  – Password policies

  – Support issues arise with unique configurations
Example 2 – Building sensors used in research activities

- Requirement
  - Network connectivity from Building sensors to Corporate Hosts
  - Secure network to protect sensors, yet still connecting to vendor product
  - Scalable solution that can be replicated in other buildings on campus.
Example 2 – Building sensors used in research activities

• Possible solutions

  – Extend the Corporate network from the data centre (e.g. VM solution)

  – Install firewalls in the intended location

  – Just give them an ADSL link like they have always had!
Example 2 – BMS used in research activities

- Challenges
  - Extending the corporate network from the DC introduces many security issues
  - Installing individual firewalls “in the wild”
  - If servers are supported by a research area, concerns around patching policies, backup, maintenance etc.
  - Maintaining redundancy and DR in the solution
  - Outsourced network (e.g. the ADSL link)
A network / service on a researcher’s whim!

- “I need wireless access for a short term non QUT user - today”

- “I need to create a web server – oh and I need it on the internet yesterday”

- “We need a high speed link from X location to our space”

- “Your Internet Accounting system needs auth – we have non QUT users?”
The creation of a server/service on demand

- The networking considerations with rapid server/service automation
  - DNS
  - Layer 7 configuration
  - Firewall rules
  - Network segregation
The creation of a server/service on demand

• The server considerations with rapid server/service automation
  – Building a “service” from a server
  – Data Storage
  – User provisioning
  – Identifying the true requirements
  – Monitoring
  – Potential cloud service?
“Can’t we just use the QUT network?”

- Building Management Systems (BMS)
- Digital signage
- Video Conferencing
- Parking System
- Vending machines
Assessing the requests?

**Analysis**
- Required skillset exists
- Link to existing systems

**Risk**
- Data Sensitivity
- Physical Location

**Cost**
- Link to corporate blueprint

**Visibility**
- Standards Compliance

**Bandwidth**

**Security**
How do we go forward?