

## SUPERNET SHARED VPN - QUALITY OF SERVICE CLASSIFICATION STANDARD

**Category:** Network  
**Effective Date:** September 2004  
**Review Date:** January 2007

### **Summary:**

A standard classification of data to be transmitted on the SuperNet network is required to provide consistent network performance [Quality of Service (QoS)] between learning sites and also between applications that have specific bandwidth requirements.

### **Specification:**

- The following data classification standard will be adopted for shared VPNs:
  - The *Gold* classification will be used exclusively for voice and video.
  - The *Silver* classification will be restricted to applications that are cross sector or across the entire learning sector. A classification of silver is determined by the group responsible for the related VPN.
  - The *Bronze* classification will be for all other data.
- SuperNet will only connect users who have sufficient bandwidth with the same characteristics. For example, users cannot send gold data to a user who does not have sufficient gold bandwidth to receive the data (This principle applies to silver and bronze also).
- The use of Gold exclusively for video and voice is meant to ensure that the special characteristics of voice and video, including sensitivity to delay (latency) or line congestion, are overcome.
- Some network management can be included in the Gold category to allow network administrators to effectively manage their network. For example, network administrators can send data to provide instructions to remote devices when the network is under stress from capacity issues or under attack as a result of a security problem.
- QoS tagging of the data will be done using “well-known” and “registered” Transmission Control Protocol/User Datagram Protocol (TCP/UDP) port assignments. This will allow connectivity for users by configuring their systems with these ports and also allow firewalls (when used) to open these ports.

### **Rationale:**

- The implementation of this standard will minimize the occurrence of data loss and application failure in a cross-sector shared VPN environment.
- The Supernet service provider has created the concept of a QoS classification scheme in order to ensure optimal network performance.
- Without a standard for use of QoS, users may not have the appropriate data classification allocation to accept the incoming data transmission.

### **Timeline:**

This standard becomes effective immediately and must be implemented at the same time that each learning site is connected to the Alberta SuperNet.

### **Notes:**

- Depending on the type of profile subscribed to by the organization (trusted or un-trusted profile), the classification of the data will be assigned by the user or by the network operator (Axia). If assigned by the user, all users must agree to use the gold, silver, and bronze classifications defined above.
- The “well-known” and “registered” port assignments will be published and updated on an as-required basis by Alberta Learning’s Technology Standards Office, working in conjunction with the central Government of Alberta entity.

### **Contact:**

Technology Standards Office (TSO)  
Stakeholder Technology Branch  
E-mail: [tso@learning.gov.ab.ca](mailto:tso@learning.gov.ab.ca)