

Potential Areas of Research Activity – March 2000

- Quality of Service Architectures
 - Resource reservation and management using end provisioning models
 - differentiated services using non-reservation models
 - emulation of various service characteristics using per hop behaviours
 - linkage of admission element behaviour to current network load and capacity
- Network Management Tools and Techniques
 - extensions to the SNMP architecture to poll system state rather than element-by-element operating state
 - link integrity monitoring mechanisms using a time base of sub-millisecond reaction period
- Routing Protocols and Convergence Behaviours
 - extensions to routing protocols that allow rapid convergence (sub 100 millisecond interval)
 - routing protocol extensions that allow simultaneous distributed re-computation of routes
 - performance characteristics and stability of high speed MPLS switching environments
- Network Measurement Techniques
 - IP packet monitoring techniques for high speed (2.4G) bearer systems
 - flow-based network measurement techniques
- Traffic Engineering
 - dynamic resource management allowing a statement of macro service requirements to be mapped into specific network paths with associated service profile
 - policy specification and operation of resource pre-emption capabilities and dynamic re-mapping of resource associations to allow optimal packing within available network capacity
- IPV6
 - exploitation of capabilities available in V6, including explicit flow labelling and end-to-end security mappings
- Multicast
 - test bed for high speed multicast services