

# Informal Quiz 7: QoS->Optical

T F

- Strong authentication involves sending shared secrets on the wire
- H.323 provides call control and codecs in addition to RTP
- RSVP PATH messages are used to identify the reverse path from receivers to any sender
- In the differentiated services model, interior routers must handle fine-grained signaling and policy functionality
- Scheduling refers to the choice of packet to transmit, whereas buffer management refers to the decision to enqueue or drop a particular packet
- Digital signatures is based upon symmetric

# Informal Quiz 7 (contd)

T F

- NAT, DHCP, subnetting and CIDR together allow better multiplexing of the IPv4 address space
- The 128 bit address space in IPv6 simplifies autoconfiguration, network renumbering and routing
- RMON defines both a new MIB and a new protocol
- RTP does not provide acks or NAKs, and therefore is not a reliable multicast transport protocol
- Certificate authorities can change their private key often
- DES is an example of a public key encryption system
- Kerberos provides a single sign-on authentication facility
- Certificate authorities sign every packet in a secure session
- Mobile IP solves the mobile routing problem at the network layer, whereas TCP migrate solves at the DNS and transport protocols
- Bluetooth and 802.11 LANs operate in the same spectrum and could potentially interfere.

# Informal Quiz 7 (contd)

T F

- Cellular telephony sets up frequency reuse in cells partly based upon the fact that far-field power loss is proportional to  $1/R^4$ , much larger than near-field loss.
- The RTS/CTS approach works for wireless MAC because the potential collision is at the receiver (not sender unlike Ethernet), and the receiver controls CTS.
- The trie data structure for IP forwarding lookup facilitates binary search in terms of prefix length and linear search in terms of prefix value.
- An overwhelmingly large number of prefixes in the global routing mesh are between 16 and 24 bits long
- Multihoming by enterprises is leading to exponential growth in routing tables.
- Multi-stage crossbar saves crosspoints at the expense of needing to reconfigure inter-block connections every switching time
- Batcher-banyan design is non-blocking and therefore does not need buffered crosspoints

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## Informal Quiz 7 (contd)

- Output queuing incurs head-of-line blocking and requires relatively lower buffer access speeds compared to input queuing.
- To extract a 64kbps line from a T3 line, it has to be first demuxed into component T1 lines
- The use of pointers in SONET overcomes jitter issues for higher speed transport and higher levels of multiplexing.
- The path overhead is always at the beginning of the SONET frame.
- The section overhead contains the information necessary to facilitate automatic protection switching, one of SONET's key features.
- STS-N frames are formed by placing STS-1 frames next to each other without interleaving.
- An ADM crossconnects multiple SONET loops.
- Geometric optics can be used to explain single-mode fiber transmission properties.
- Dispersion: modal and chromatic are the primary issues for transmission at rates at or below OC-48c

- EDFAs amplify in an  $\lambda$ -sensitive manner

# Informal Quiz 7: Solutions

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- In the differentiated services model, interior routers must handle fine-grained signaling and policy functionality
- Scheduling refers to the choice of packet to transmit, whereas buffer management refers to the decision to enqueue or drop a particular packet
- Digital signatures is based upon symmetric encryption techniques

# Informal Quiz 7 (contd)

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- ✓  NAT, DHCP, subnetting and CIDR together allow better multiplexing of the IPv4 address space
- ✓  The 128 bit address space in IPv6 simplifies autoconfiguration, network renumbering and routing
- ✓ RMON defines both a new MIB and a new protocol
- ✓  RTP does not provide acks or NAKs, and therefore is not a reliable multicast transport protocol
- ✓ Certificate authorities can change their private key often
- ✓ DES is an example of a public key encryption system
- ✓  Kerberos provides a single sign-on authentication facility

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## Informal Quiz 7 (contd)

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- ✓  Multihoming by enterprises is leading to exponential growth in routing tables.
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- ✓  Batcher-banyan design is non-blocking and therefore does not need buffered crosspoints
- ✓ Output queuing incurs head-of-line blocking and requires relatively lower buffer access speeds compared to input queuing.
- ✓  To extract a 64kbps line from a T3 line, it has to be first demuxed into component T1 lines
- ✓  The use of pointers in SONET overcomes jitter issues for higher speed transport and higher levels of multiplexing.



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- ✓  Dispersion: modal and chromatic are the primary issues for transmission at rates at or below OC-48c
- ✓ EDFAs amplify in an  $\lambda$ -sensitive manner