

Questions

Which delivery mechanism (___cast)
is a one-to-one mapping from address
to host?

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multicast?

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multiple unicast?

TCP is often used for multicast applications

DiffServ provides guaranteed QoS by reserving resources across a path.

G.728 Voice Codec:

Sample size: 10 Bytes

Sample interval: 5 ms

RTP/UDP/IP Header size: 40 Bytes

Bandwidth needed per call: 3.3KB/s

How many bytes in RTP Payload?

In streaming applications, buffering can be used to reduce the impact of _____, at the expense of increased startup _____

- a) Large file download
- b) Web video streaming
- c) VoIP call
- d) IPTV

1. delay $< 100\text{ms}$; throughput $> 10\text{kbps}$
2. delay $< 1\text{s}$; throughput $> 100\text{kb/s}$
3. delay $< 1\text{s}$; throughput $> 1\text{Mb/s}$
4. delay $< 10\text{s}$; throughput $> 1\text{Mb/s}$

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for setting up a
voice call in the Internet?

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for streaming
video packets in IPTV?

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for selecting
channel in IPTV?

FTTN, FTTC, FTTH, ADSL2+

Which one do you want?

Answers

Which delivery mechanism (___cast)
is a one-to-one mapping from address
to host?

Which delivery mechanism (___cast) is a one-to-one mapping from address to host?

Unicast

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multicast?

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multicast?

7

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multiple unicast?

S - lan1- R1 - lan2 - R2 - lan3

3 destinations on lan3

2 destinations on lan2

(Multicast/Broadcast not available at L2)

What is minimum number of packets transmitted if using multiple unicast?

13

TCP is often used for multicast applications

TCP is often used for multicast applications

False

ACKs, high delay

DiffServ provides guaranteed QoS by reserving resources across a path.

DiffServ provides guaranteed QoS by reserving resources across a path.

False

IntServ uses RSVP

G.728 Voice Codec:

Sample size: 10 Bytes

Sample interval: 5 ms

RTP/UDP/IP Header size: 40 Bytes

Bandwidth needed per call: 3.3KB/s

How many bytes in RTP Payload?

G.728 Voice Codec:

Sample size: 10 Bytes

Sample interval: 5 ms

RTP/UDP/IP Header size: 40 Bytes

Bandwidth needed per call: 3.3KB/s

How many bytes in RTP Payload?

60 Bytes

In streaming applications, buffering can be used to reduce the impact of _____, at the expense of increased startup _____

In streaming applications, buffering can be used to reduce the impact of **jitter**, at the expense of increased startup **delay**

- a) Large file download
- b) Web video streaming
- c) VoIP call
- d) IPTV

1. delay $< 100\text{ms}$; throughput $> 10\text{kbps}$
2. delay $< 1\text{s}$; throughput $> 100\text{kb/s}$
3. delay $< 1\text{s}$; throughput $> 1\text{Mb/s}$
4. delay $< 10\text{s}$; throughput $> 1\text{Mb/s}$

a) Large file download

4. delay $< 10s$; throughput $> 1Mb/s$

b) Web video streaming

2. delay $< 1s$; throughput $> 100kb/s$

c) VoIP call

1. delay $< 100ms$; throughput $> 10kbps$

d) IPTV

3. delay $< 1s$; throughput $> 1Mb/s$

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for setting up a
voice call in the Internet?

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for setting up a
voice call in the Internet?

SIP

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for streaming
video packets in IPTV?

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for streaming
video packets in IPTV?

RTP

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for selecting
channel in IPTV?

IGMP, ICMP, RTP, RTSP, RTCP, SIP,
SS7, VoIP

Which protocol is used for selecting
channel in IPTV?

IGMP

FTTN, FTTC, FTTH, ADSL2+

Which one do you want?

FTTN, FTTC, FTTH, ADSL2+

Which one do you want?

FTTH