

Overlay

Network

Multi-Hour

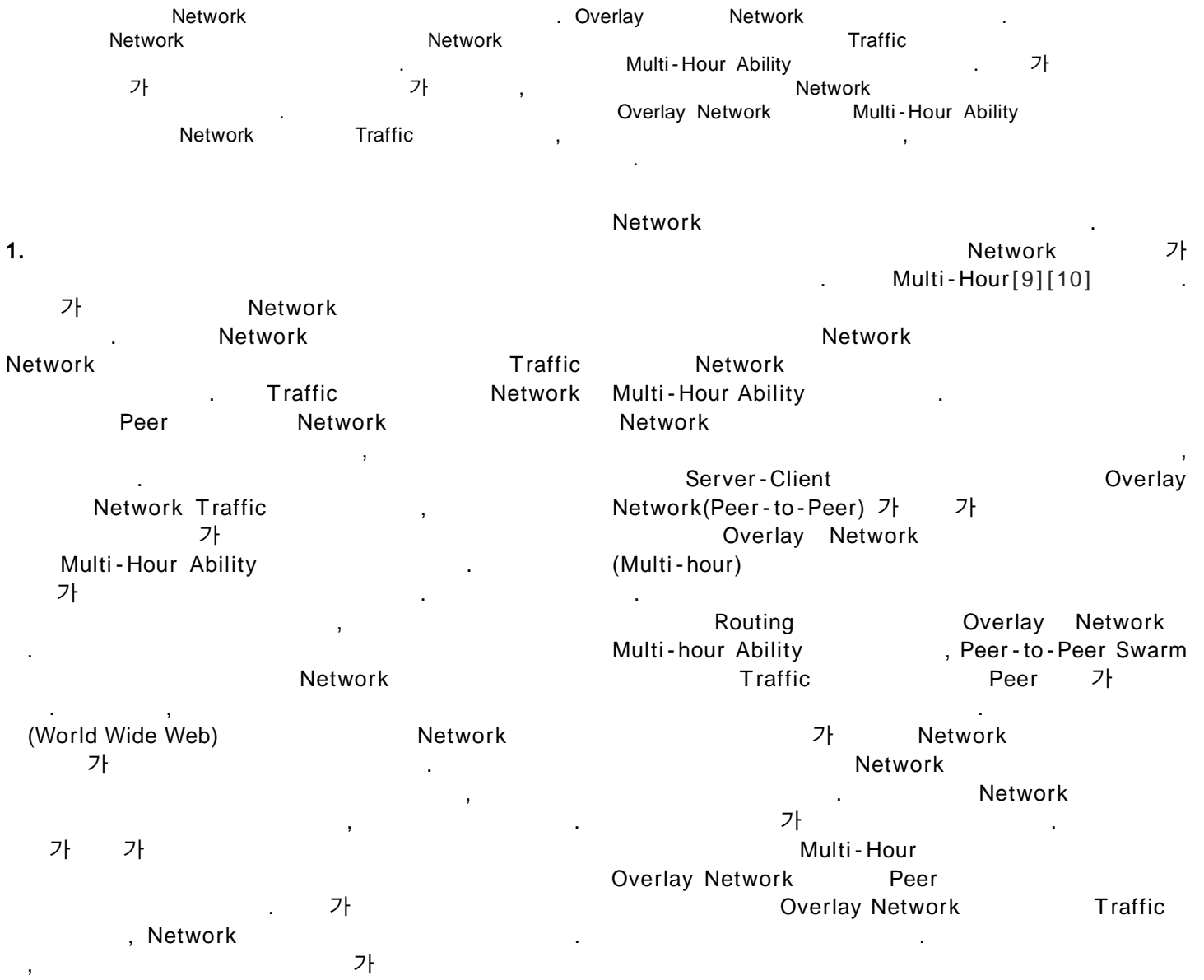
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{swahn^o, hxy}@os.korea.ac.kr

Technique to Secure Stable Bandwidth in Overlay Structured Network by Using Multi-Hour

SungWon Ahn, Hyuck Yoo

Korea University Operating System Laboratory



2.

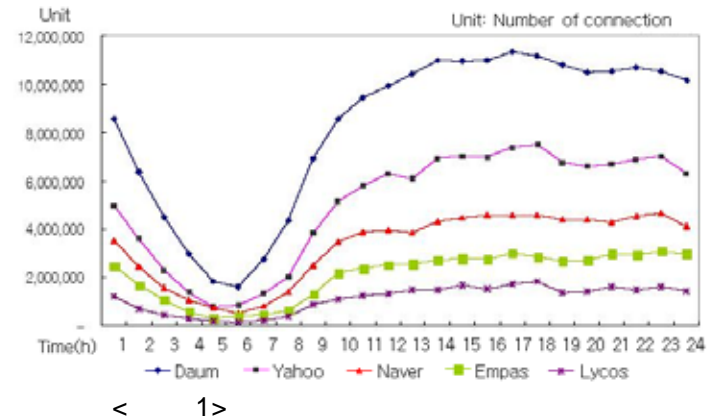
2.1 Overlay Network

Overlay Network Network Overlay Network
 Peer Network Overlay Network
 Peer Network Overlay Network
 Peer Network Network
 Peer (nodes) Network Overlay Network
 Peer Network Peer
 Peer가 Peer
 Network Peer
 Network Peer-to-Peer Network
 Server-Client
 Server Client
 Network 가 Client
 가 Client
 가 가
 Peer-to-Peer(P2P) Overlay Network, P2P
 (50~75%) traffic
 P2P Overlay
 Unstructured (Data-driven)[1][16] Structured
 (Tree-based)[1][18]
 Unstructured Peer(peer)
 Peer P2P
 flooding
 Structured Peer 가
 P2P Network Peer가
 Peer Peer
 (DHT)
 Overlay Network Routing
 Multi-Hour Ability

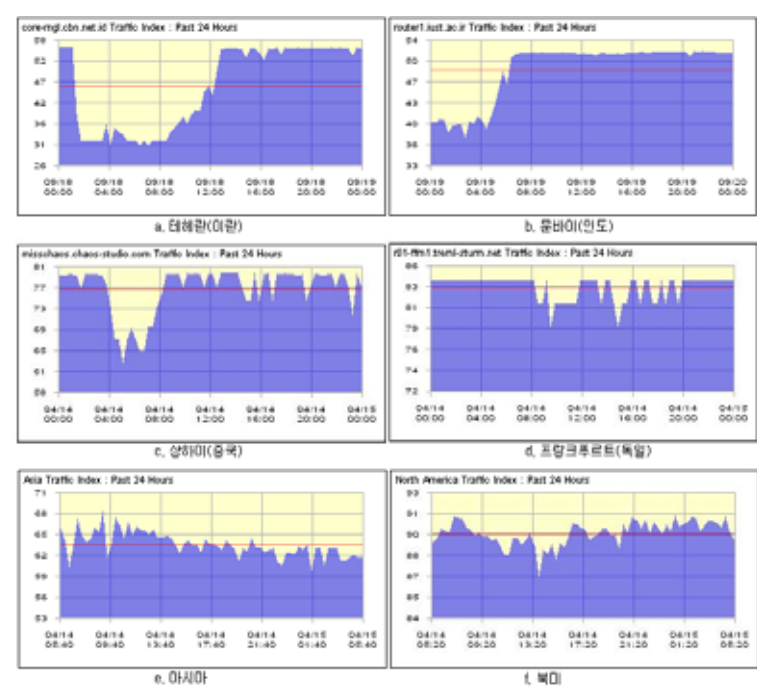
2.2 Multi-Hour

Multi-Hour 'Routing, Flow, and Capacity Design in Communication and Computer Network' [9]
 Multi-Hour 가
 가
 traffic 가
 traffic 가 가
 가 Overlay

Network (P2P) , P2P
 Streaming Overlay Network Peer
 traffic 가 가
 Overlay Network
 Peer [10]
 Network 1
 2, 3

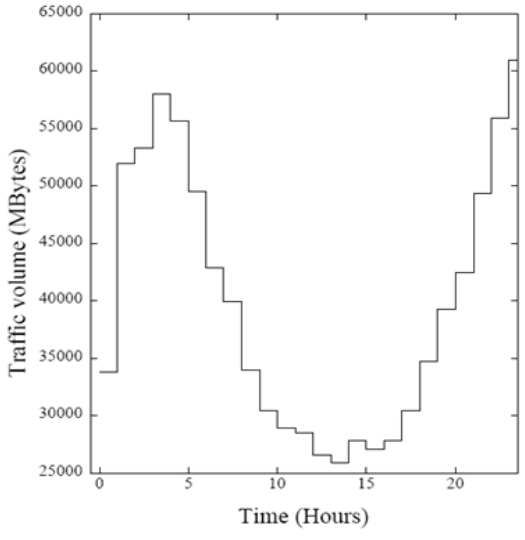


< 1 >
 1
 8 가 가 .[21] 1
 가 가 2 7
 pm 8:00 가 (pm 1:00 ~
 가 가 (am 2:00 ~ am 7:00)
 가 가 5
 가 4 6 가



< 2 > Network Traffic

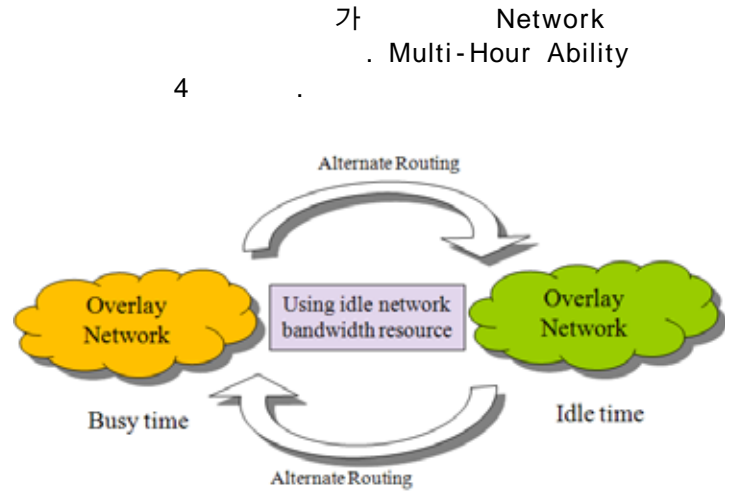
2 Network Traffic
 , b , c a
 , d 가
 Traffic . [22]
 2 e f
 가가 traffic
 가 가
 (09:40 13:40)
 가 가
 가



< 3> Overlay Network (P2P Gnutella) Traffic

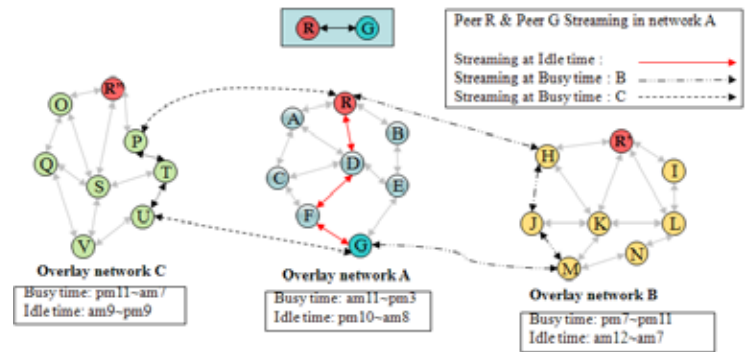
3 Gnutella
 traffic Gnutella 2
 Unstructured P2P Pure P2P
 Overlay Network GMT(Greenwich Mean Time)
 traffic
 P2P
 upload download
 3 peak traffic period 가
 . [20]

3. Multi-Hour Ability



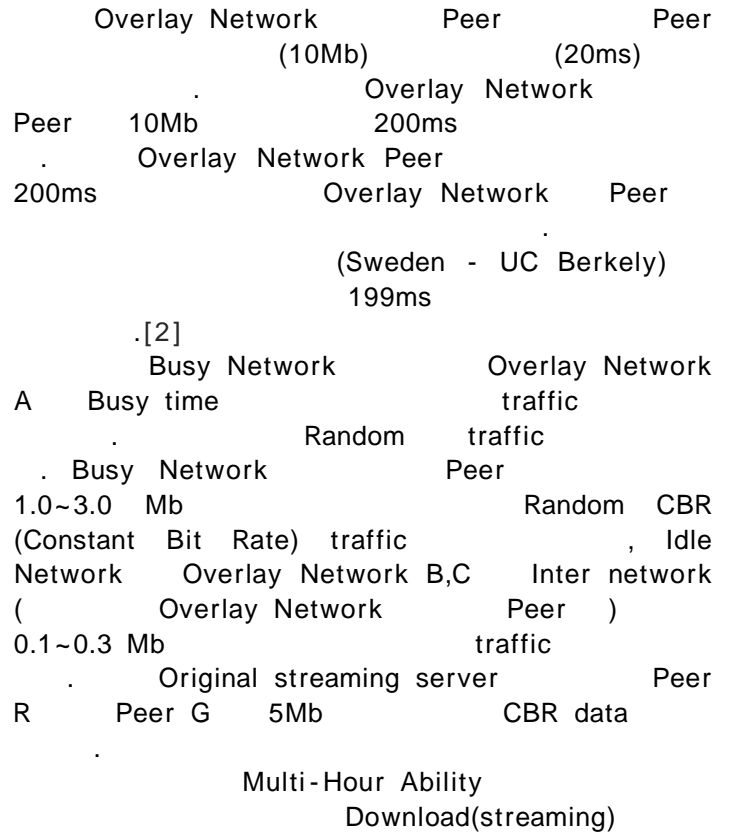
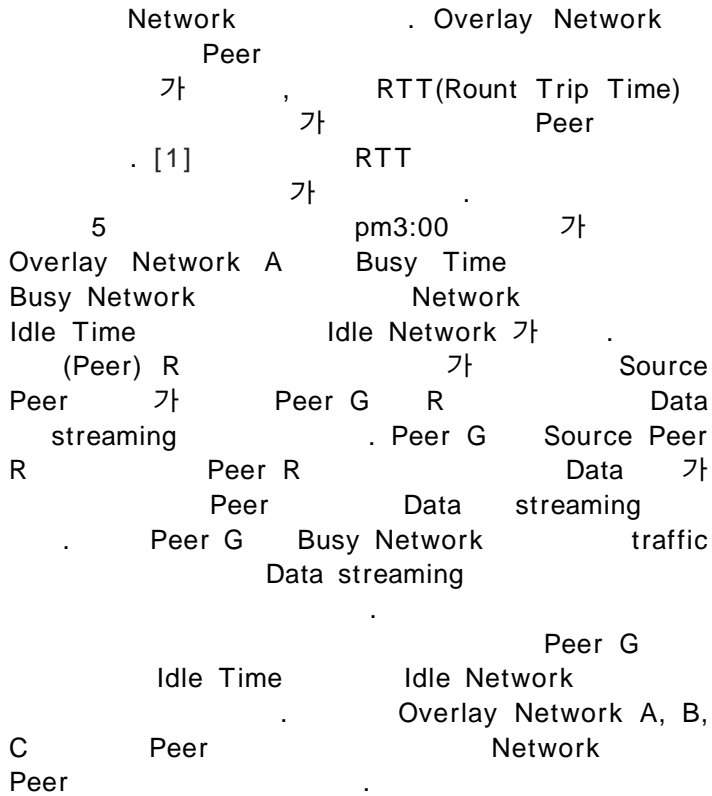
< 4> Multi-Hour Ability

4 , Multi-Hour Ability
 가 Network (Idle Network)
 Network (Busy Network)
 Network Busy Network
 (Peer) Busy Network
 Network Idle
 Network traffic Busy
 Busy Network Peer
 Peer Peer
 가 Peer
 Busy Network Peer
 Idle Network

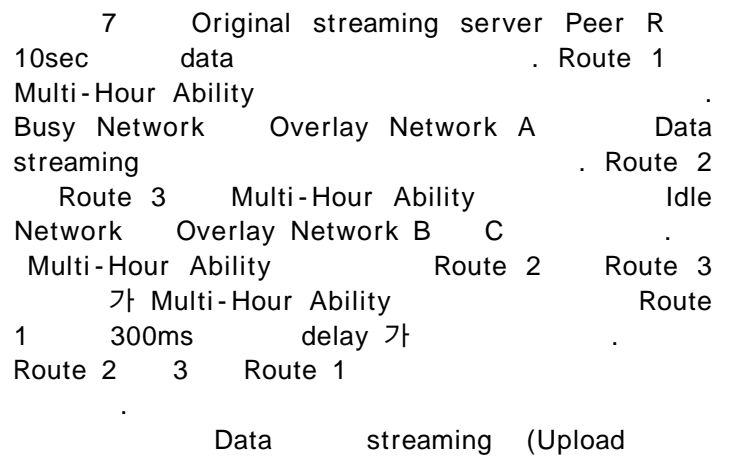
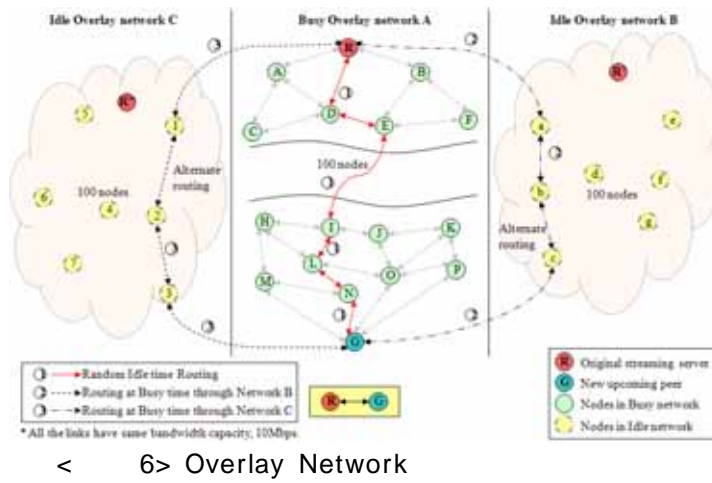
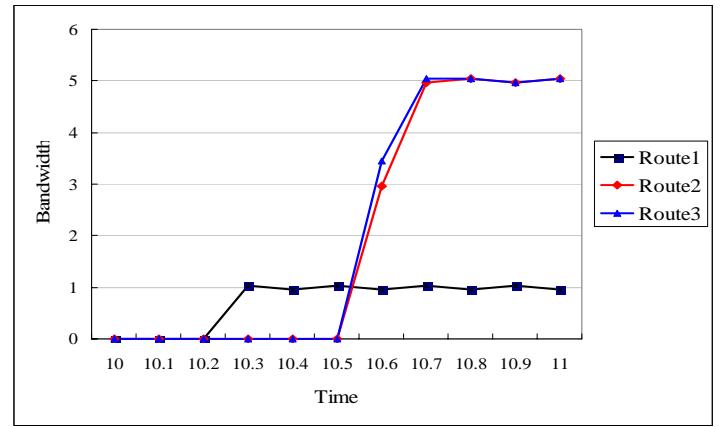
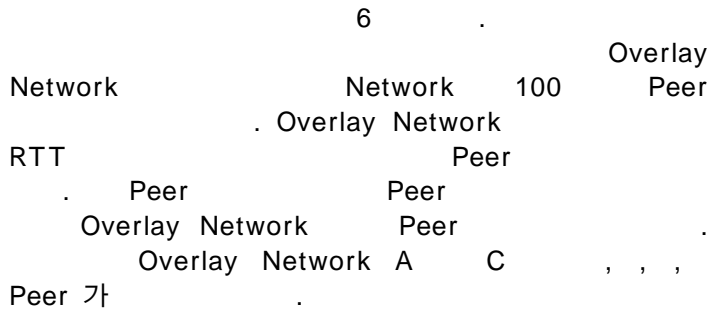


< 5> Multi-Hour Ability

5 Multi-Hour Ability
 Overlay Network
 Busy Time Idle Time
 Overlay Network Peer



4. Multi-Hour Ability ns-2[23]



Download)
Peer G Original Server Overlay Manager 가
Idle Time Peer
Overlay Network A Congestion

5.

Network
Server-Client Overlay
Network(Peer-to-Peer) 가 가
Overlay Network
(Multi-hour)
Overlay Network
Network
Overlay Network
Multi-Hour Ability
가
Multi-Hour Ability Overlay
Network traffic
Multi-Hour Ability Network Peer
Overlay Network
traffic
Multi-Hour Ability
Overlay Network

6.

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