Integration of Call Authorization and Call Signaling for IP Telephony

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AT&T, CableLabs, 3Com, Cisco, Com21, General Instrument, Lucent Cable, NetSpeak, Telcordia

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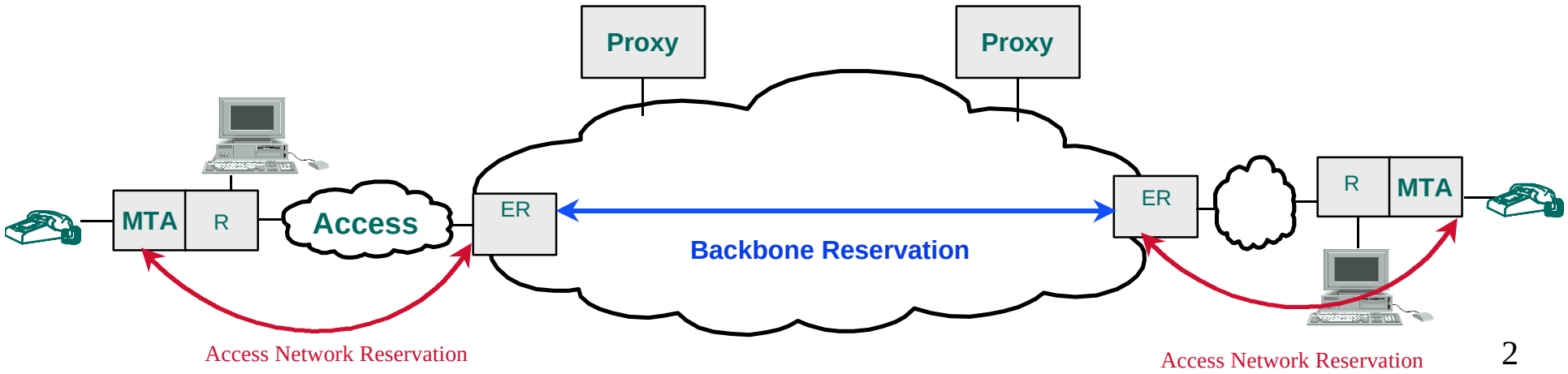
Authorization Framework

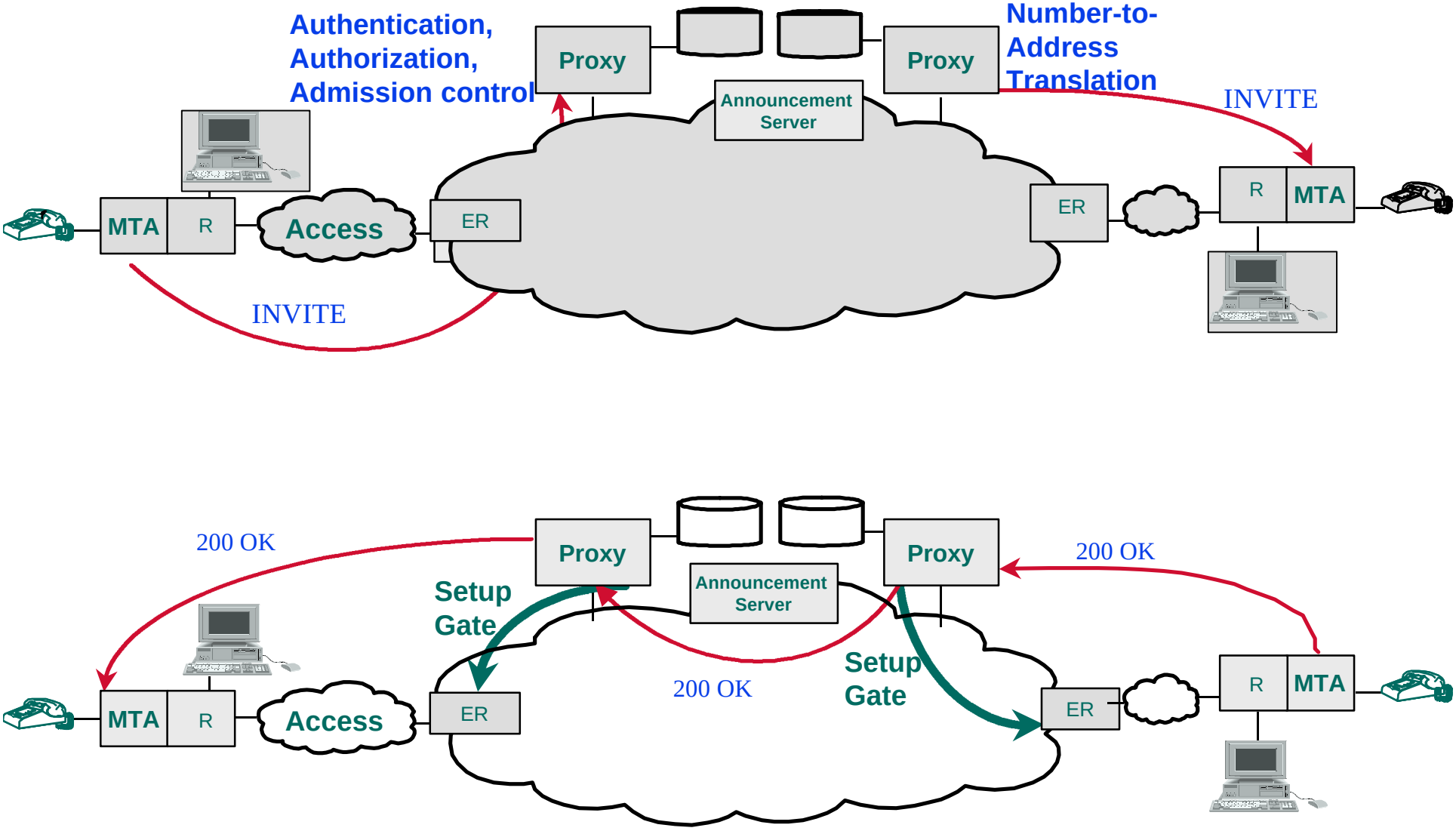
- Access network likely to be resource constrained
  - use of per-flow signaling and allocation is needed
    - » performed on a call-by-call basis, in concert with call-leg manipulation
- Two-phase resource management
  - have resource before ringing, but bill only after far end picks up.
  - Prevent theft of service during ringing period



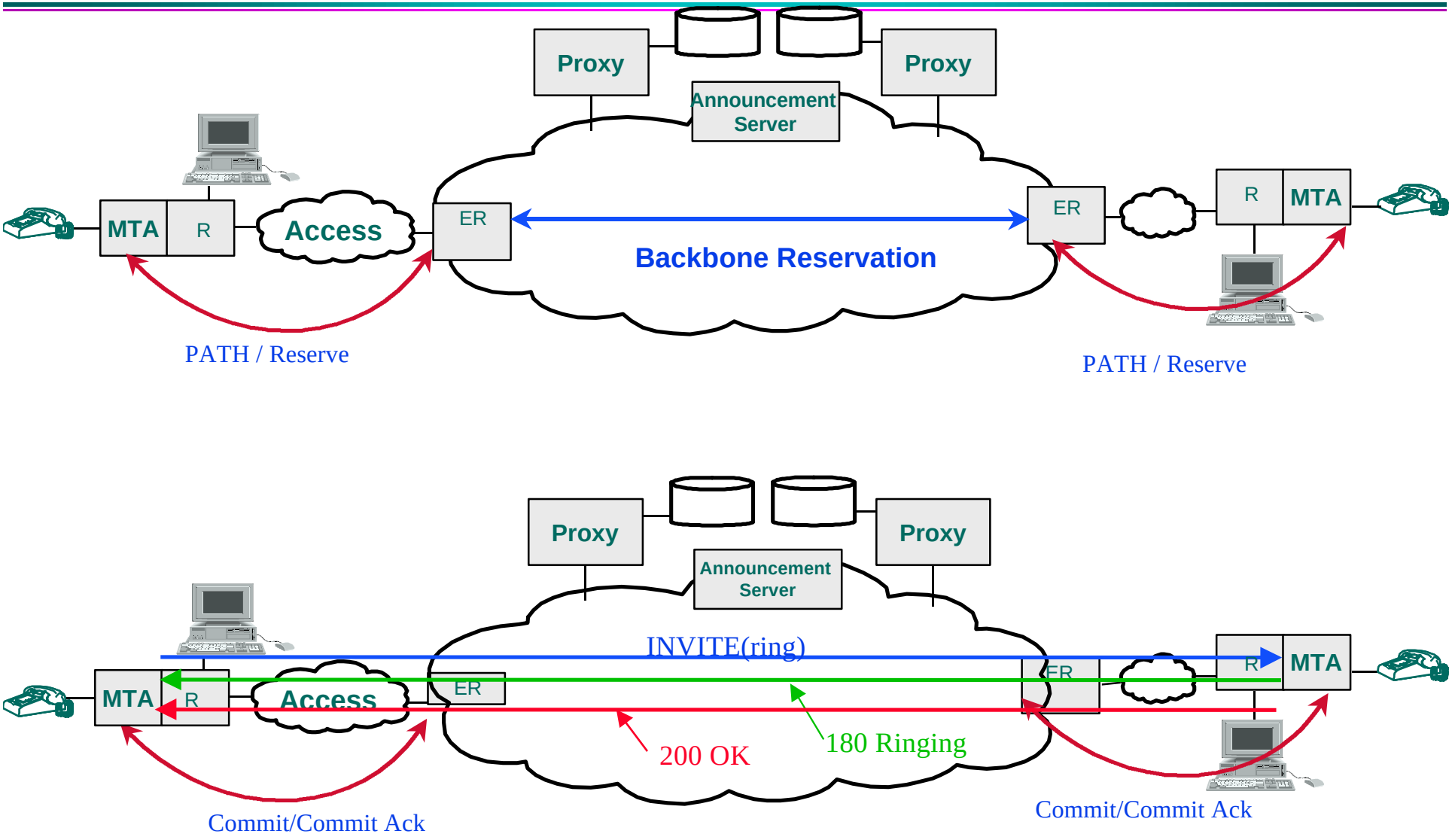
"Gates" and Edge Router Functionality

- "Gates" in edge routers opened for individual calls
  - call admission control and policing implemented in edge routers
    - » gate utilizes packet filters that already exist in edge routers: "allow a call from this source to this destination" etc.
  - gate allows communication between a source and a destination, for a particular range of traffic parameters, and a particular duration
  - however, ***policy*** is controlled by the proxy
- Proxy sets up gate in edge router after Call Setup authorized
  - permit access to managed network resources: users receive dependable QoS
- MTA makes resource reservation request by signaling to edge router
  - edge router admits the reservation if consistent with gate parameters
  - edge router generates usage recording events based on reservation state

Example Call Flow, Part 1



Example Call Flow, Part 2



SIP Support needed for Call Authorization

- Client needs to know the location of GATE
  - GATE-LOCATION = “GateLocation” “:” hostport “/” Gate-ID
  - Gate-ID = 1*alphanum
- Header placed in messages from Proxy to Client