YANG Model for Transmission Control Protocol (TCP) Configuration
draft-scharf-tcpm-yang-tcp-06

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Recap: YANG discussions in TCPM

- Several YANG discussions in past TCPM meetings
- RFC 4022 TCP-MIB widely implemented
  - Routers via SNMP (e.g., Cisco)
  - Host operating systems in own formats (e.g., Linux, Windows)
  - Short-coming such as insufficient 32 bits counters (InSegs/OutSegs)
- Specific needs in other working groups
  - TCP-AO configuration in draft-ietf-idr-bgp-model
  - Protocol YANG models typically homed in WG owning the protocol
- No clear consensus in TCPM on what to do
  
  "This will be painful and a waste of time"
  
  vs.
  
  "This is very useful, please also add X" (e.g. congestion control)
- Update in -06: Minimal base model
Complete model in draft-scharf-tcpm-yang-tcp-06

```
module: ietf-tcp
  +++rw tcp!
  +++rw connections
  |  +++rw connection*
  |  |  [local-address remote-address local-port remote-port]
  |  |  +++rw local-address inet:ip-address
  |  |  +++rw remote-address inet:ip-address
  |  |  +++rw local-port inet:port-number
  |  |  +++rw remote-port inet:port-number
  |  +++rw common
  |  |  +++rw keepalives!
  |  |  |  +++rw idle-time uint16
  |  |  |  +++rw max-probes uint16
  |  |  |  +++rw probe-interval uint16
  |  |  +++rw (authentication)?
  |  |  |  |: (ao)
  |  |  |  |  |  +++rw enable-ao? boolean
  |  |  |  |  |  +++rw send-id? uint8
  |  |  |  |  |  +++rw recv-id? uint8
  |  |  |  |  |  +++rw include-tcp-options? boolean
  |  |  |  |  |: (md5)
  |  |  |  |  |  |  +++rw enable-md5? boolean
  |  |  +++rw server {server}?
  |  |  |  +++rw local-address inet:ip-address
  |  |  |  +++rw local-port? inet:port-number
  |  |  |  +++rw keepalives!
  |  |  |  |  +++rw idle-time uint16
  |  |  |  |  +++rw max-probes uint16
  |  |  |  |  +++rw probe-interval uint16
  |  |  |  +++rw client {client}?
  |  |  |  |  +++rw remote-address inet:host
  |  |  |  |  +++rw remote-port? inet:port-number
  |  |  |  |  +++rw local-address? inet:ip-address
  |  |  |  |  +++rw local-port? inet:port-number
  |  |  |  |  +++rw keepalives!
  |  |  |  |  |  +++rw idle-time uint16
  |  |  |  |  |  +++rw max-probes uint16
  |  |  |  |  |  +++rw probe-interval uint16
  +++ro statistics {statistics}?
  |  |  +++ro active-opens? yang:counter32
  |  |  +++ro passive-opens? yang:counter32
  |  |  +++ro attempt-fails? yang:counter32
  |  |  +++ro establish-fails? yang:counter32
  |  |  +++ro currently-established? yang:counter32
  |  |  +++ro in-segments? yang:counter64
  |  |  +++ro out-segments? yang:counter64
  |  |  +++ro retransmitted-segments? yang:counter32
  |  |  +++ro in-errors? yang:counter32
  |  |  +++ro out-resets? yang:counter32
  |  |  +++ro attempts-fails? yang:counter32
  |  |  +++ro reset
  |  |  |  +++w input
  |  |  |  |  +++w reset-at? yang:date-and-time
  |  |  |  +++ro output
  |  |  |  |  +++ro reset-finished-at? yang:date-and-time
```

TCP-AO (and TCP MD5)

Connection list

(especially) server and client config.
Next steps for draft-scharf-tcpm-yang-tcp-06

- **Narrow scope in -06**
  1. TCP basic statistics (optional)
  2. TCP connection list
  3. TCP-AO and TCP MD5 with TCP-AO being strongly RECOMMENDED
  4. Import of groupings from draft-ietf-netconf-tcp-client-server

- **Short resulting document**
  - Focused on already known, simple use cases
  - Easy to review
  - Extensions possible in other follow-up documents

- **WG adoption in TCPM?**