

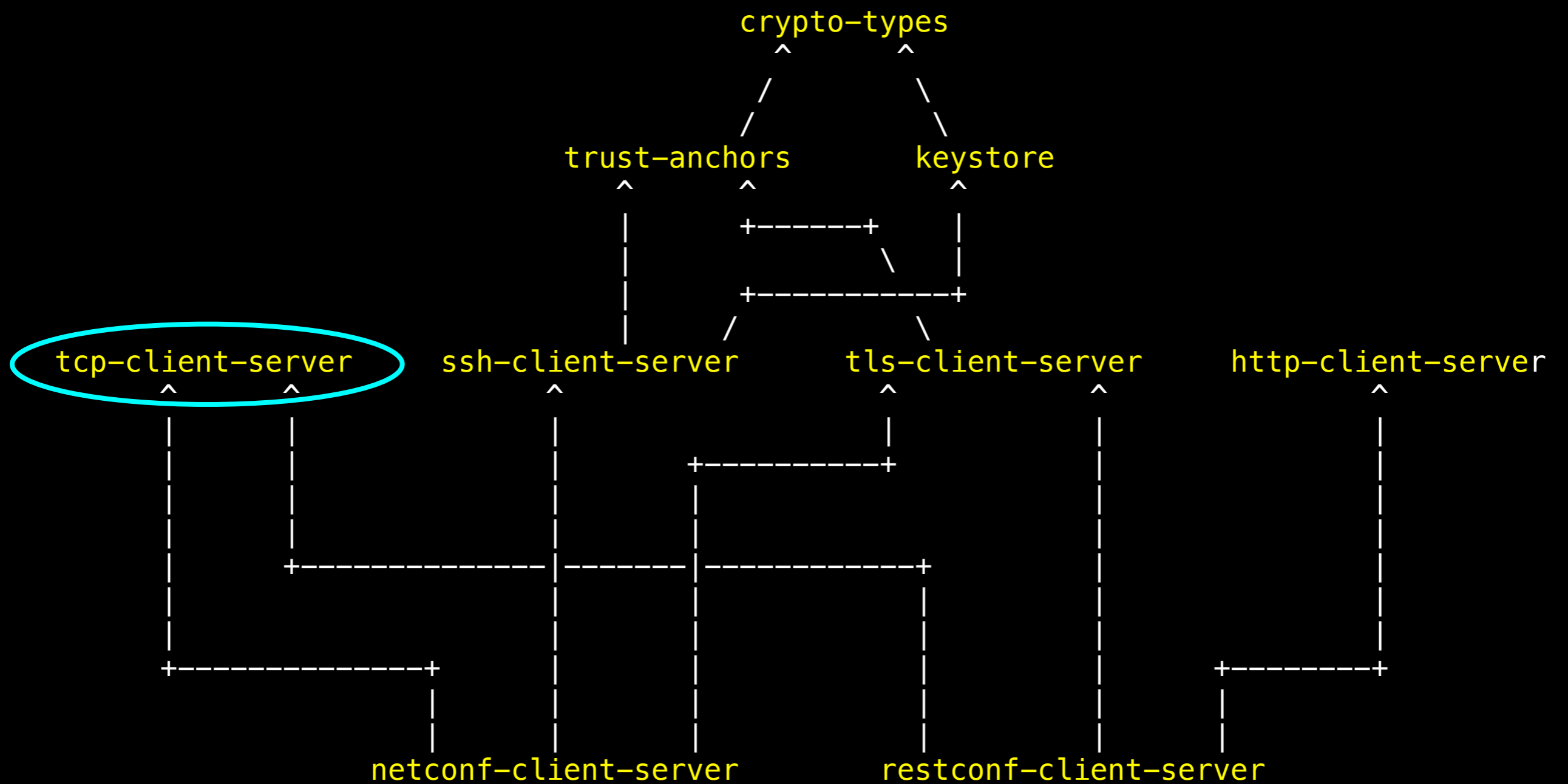
YANG Groupings for TCP Clients and TCP Servers

draft-ietf-netconf-tcp-client-server-07

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TCPM WG
IETF 108 (Virtual)

Relation to other RFCs



Protocol Stacks

Each draft defines groupings that provide a snippet of configuration that can be mixed-n-matched as needed.

Configuration:

```
<tcp-client-parameters>
  <remote-address>
    corp-fw2.example.com
  </remote-address>
  <remote-port>443</remote-port>
  <local-address>
    0.0.0.0
  </local-address>
  <local-port>0</local-port>
</tcp-client-parameters>

<tls-client-parameters>
  <server-authentication>
    <ca-certs>
      <truststore-reference>
        trusted-server-ca-certs
      </truststore-reference>
    </ca-certs>
  </server-authentication>
</tls-client-parameters>

<http-client-parameters>
  <client-identity>
    <basic>
      <user-id>foobar</user-id>
      <password>secret</password>
    </basic>
  </client-identity>
</http-client-parameters>
```

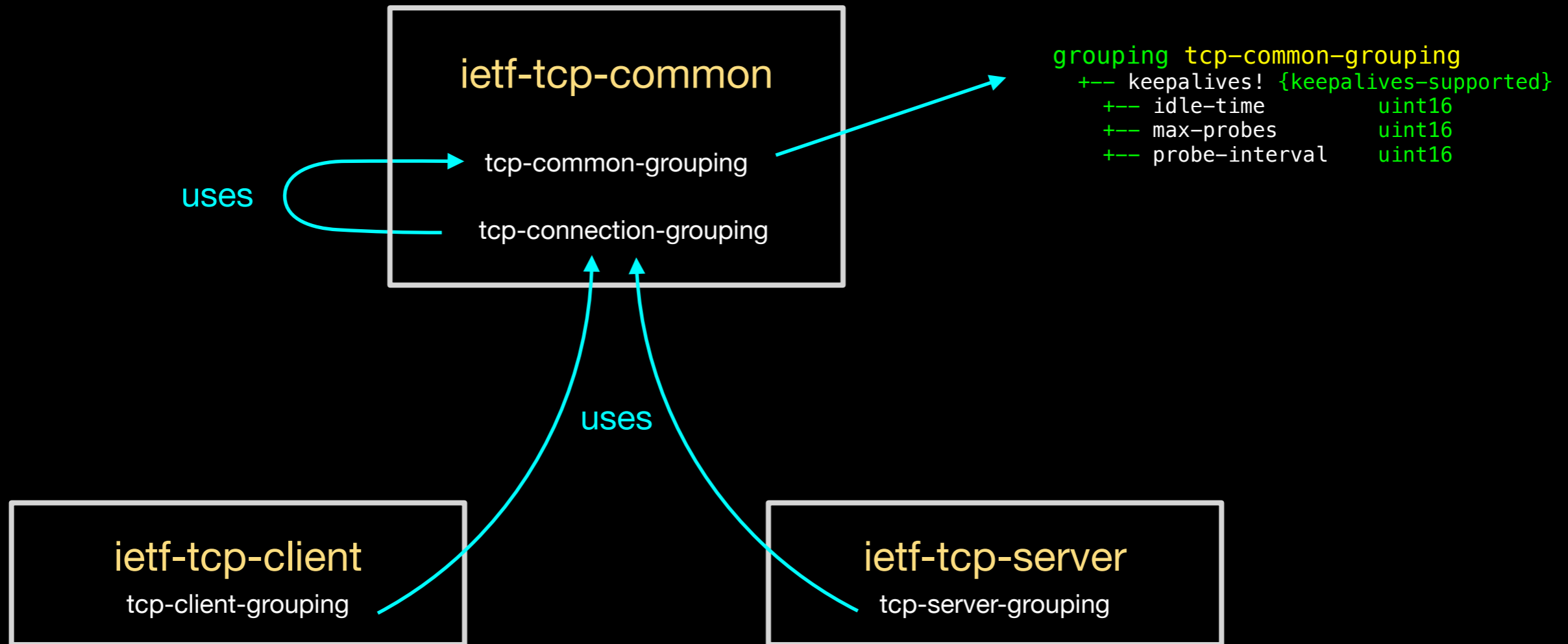
Example: An HTTPS Client “stack”

http-client-grouping
(draft-ietf-http-client-server)

tls-client-grouping
(draft-ietf-tls-client-server)

tcp-client-grouping
(draft-ietf-tcp-client-server)

Draft Defines Three YANG Modules



The “tcp-client-grouping” Grouping

Basic
params

```
grouping tcp-client-grouping
+-- remote-address          inet:host
+-- remote-port?          inet:port-number
+-- local-address?        inet:ip-address
|   {local-binding-supported}?
+-- local-port?          inet:port-number
|   {local-binding-supported}?
+-- proxy-server! {proxy-connect}?
+-- (proxy-type)
+--:(socks4)
|   +-- socks4-parameters
|   |   +-- remote-address    inet:ip-address
|   |   +-- remote-port?    inet:port-number
+--:(socks4a)
|   +-- socks4a-parameters
|   |   +-- remote-address    inet:host
|   |   +-- remote-port?    inet:port-number
+--:(socks5)
|   +-- socks5-parameters
|   |   +-- remote-address    inet:host
|   |   +-- remote-port?    inet:port-number
|   +-- authentication-parameters!
|   |   +-- (auth-type)
|   |   |   +--:(gss-api) {socks5-gss-api}?
|   |   |   |   +-- gss-api
|   |   |   +--:(username-password)
|   |   |   |   {socks5-username-password}?
|   |   |   |   +-- username-password
|   |   |   |   |   +-- username?    string
|   |   |   |   |   +-- password?   string
+--u tcpcmn:tcp-connection-grouping
```

All this to
support
connecting
through
proxies.

See prev slide →

TCP-Client Configuration Example

```
<tcp-client
  xmlns="urn:ietf:params:xml:ns:yang:ietf-tcp-client">
  <remote-address>www.example.com</remote-address>
  <remote-port>443</remote-port>
  <local-address>0.0.0.0</local-address>
  <local-port>0</local-port>
  <proxy-server>
    <socks5-parameters>
      <remote-address>proxy.my-domain.com</remote-address>
      <remote-port>1080</remote-port>
      <authentication-parameters>
        <username-password>
          <username>foobar</username>
          <password>secret</password>
        </username-password>
      </authentication-parameters>
    </socks5-parameters>
  </proxy-server>
  <keepalives>
    <idle-time>15</idle-time>
    <max-probes>3</max-probes>
    <probe-interval>30</probe-interval>
  </keepalives>
</tcp-client>
```

Shown in XML, but could be JSON, CBOR, or any other encoding supported by YANG.

The “tcp-server-grouping” Grouping

Basic params {
See prev slide →

```
grouping tcp-server-grouping
  +-- local-address                inet:ip-address
  +-- local-port?                  inet:port-number
  +---u tcpcmn:tcp-connection-grouping
```

TCP-server configuration example:

```
<tcp-server xmlns="urn:ietf:params:xml:ns:yang:ietf-tcp-server">
  <local-address>10.20.30.40</local-address>
  <local-port>7777</local-port>
  <keepalives>
    <idle-time>15</idle-time>
    <max-probes>3</max-probes>
    <probe-interval>30</probe-interval>
  </keepalives>
</tcp-server>
```

Shown in XML, but
could be JSON, CBOR,
or any other encoding
supported by YANG.

About to enter dual-WG last call...

Comments?