Status and Issues for the “Client-Server” Suite of Drafts

draft-ietf-netconf-crypto-types-17
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NETCONF WG
IETF 108 (Virtual)
Since IETF 107

High-level Updates:

crypto-types:
- Removed the IANA-maintained registries for symmetric, asymmetric, and hash algorithms.
- Removed the "generate-symmetric-key" and "generate-asymmetric-key" RPCs.
- Removed the "algorithm" node in the various symmetric and asymmetric key groupings.
- Added typedefs csr, csr-info, oscp-request, ocsp-response.
- Added "encrypted" case to both asymmetric and symmetric key groupings.
- Added "cleartext-" prefix to key nodes.

trust-anchors:
- Modified 'local-or-truststore-certs-grouping' to use a list (not a leaf-list).
- Added new example section "The Local or Truststore Groupings".
- Clarified expected behavior for "built-in" certificates in <operational>.

keystore:
- Added new section "Encrypting Keys in Configuration".
- Clarified expected behavior for "built-in" keys in <operational>
- Clarified the "Migrating Configuration to Another Server" section.
Since IETF 107 (cont.)

tcp-client-server:
   - Added support for TCP proxies.

ssh-client-server:
   - Removed algorithm-mapping tables from the "SSH Common Model" section.
   - Renamed both "client-certs" and "server-certs" to "ee-certs"
   - A few "must" and "mandatory" modifications.

tls-client-server:
   - Removed algorithm-mapping tables from the "SSH Common Model" section.
   - Renamed both "client-certs" and "server-certs" to "ee-certs"
   - A few "must" and "mandatory" modifications.

http-client-server:
   - Removed "protocol-versions" from ietf-http-server based on HTTP WG feedback.
   - Added a parent "container" to "client-identity-grouping" so that it could be better used by the proxy model.
   - Added a "choice" to the proxy model enabling selection of proxy types.
   - Added 'http-client-stack-grouping' and 'http-server-stack-grouping' convenience groupings.

netconf-client-server:
   - Many updates to examples.

restconf-client-server:
   - Many updates to examples.
What to do about cleartext password fields?

A raw password required whenever a model configures a client to authenticate itself to a remote system
- Occurs for SSH-client, HTTP-client, and SOCKS5-client.
- Unlike when password is used to authenticate a client
  - in which case “ianach:crypt-hash” can be used

All of these nodes are tagged with “nacm:default-deny-all”
- But can we do better?

Thoughts:
1. “password” —> “cleartext-password”
   - Only helpful if an option exists
2. Add an “encrypted-password”?
   - i.e., use “ct:encrypted-key-value-grouping”
3. Use “ct:symmetric-key-grouping”?
   - Comes with the “key-format” field
   - Which makes the cleartext value be type binary
4. Define a new “ct:password-grouping”?

Hardcode the “format” based on type of the “encrypted-by” key?

grouping password-grouping {
  choice password-type {
    nacm:default-deny-write;
    mandatory true;
    case cleartext-password {
      leaf cleartext-password {
        nacm:default-deny-all;
        type string;
      }
      case encrypted-password {
        container encrypted-password {
          uses ct:encrypted-key-value-grouping;
        }
      }
    }
  }
}
Specifying HTTP-client Paths

The current “http-client-group” is solely focused on connectivity
• e.g., the HTTP’s client’s identity
• A fully configured “stack”

It is assumed that the client knows how to construct the URL path (e.g., RESTCONF)
• And query parameters, the request body, etc.

The “https-notif” draft augments-in a “path”:

```xml
<tcp-client-parameters>
  <remote-address>
    corp-fw2.example.com
  </remote-address>
</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>local-app-1</user-id>
      <password>secret</password>
    </basic>
  </client-identity>
</http-client-parameters>
```

Any change needed?
FIXMEs in the PSK's "id" node

case psk {
    if-feature psk-auth;
    container psk {
        description
        "Specifies the server identity using a PSK (pre-shared
        or pairwise-symmetric key).";
        uses ks:local-or-keystore-symmetric-key-grouping;
        leaf id {
            type string;  //FIXME: is this the right type?
            mandatory true;  //FIXME: is it mandatory?
            description
            "The key 'id' value when used in the TLS protocol.";
            reference
            "FIXME: Where defined?";
        }
    }
}
}
All drafts primed for WGLC…

Any comments before start?