External Transaction ID for Configuration Tracing

draft-ietf-netconf-configuration-tracing-01

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Motivation: Tracing Configuration

Something wrong with last change of configuration on NE2. Where does the change comes from?

Use cases:

- **Configuration Mistake** “Which service request, if any, caused the mistake?”

- **Concurrent NMS modification** “Both NMS assume that they are in charge of the NE and regularly overwrite each other configuration.”

- **Conflicting Intents** “Conflicting configuration changes are cause by two conflicting service requests.”
Updates

• Pass client-id as an attribute of RPC (similar to trace-context)

```xml
<rpc xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" message-id="1"
     xmlns:w3ctc="urn:ietf:params:xml:ns:netconf:w3ctc:1.0"
     xmlns:ext-txid="urn:ietf:params:xml:ns:yang:ietf-external-transaction-id"
     w3ctc:traceparent="00-4bf92f3577b34da6a3ce929d0e0e4736-00f067aa0ba902b7-01"
     ext-txid:client-id="controller-01">
    <commit/>
</rpc>
```

Defined in YANG using annotation (yanglint likes that)

```yang
md:annotation client-id {
    type string;
    description "This annotation must be used in the NETCONF RPC nodes. It contains the client-id identifying the client which is calling the RPC. This value is used to populate the field client-id in the configuration-change container";
}
```
Next steps

• Align with other trace context and transaction-id drafts.

• Should we make a more general solution (i.e. follow https://github.com/open-telemetry/opentelemetry-proto/blob/main/opentelemetry/proto/trace/v1/trace.proto) and only specify what is missing (i.e. client-id, local-commit-id)?

Draft repo is at https://github.com/netconf-wg/configuration-tracing