

Data Flow Requirements

Draft-hares-i2rs-dataflow-req-02.txt

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DF-REQ-01: 3 levels of Checking for RIB

- DF-REQ-01: Support writing to the ephemeral copy of the Local RIB with three different types of checks:
 - minimal data reception checks (TLVs of data valid),
 - all non-referential checks (e.g. do not do leafref, MUST, instance identifiers), and
 - Full checks

DF-REQ-02/DF-REQ-03

- DF-REQ-02: The support of large data transfers in a data format agnostic format.
 - This the I2RS protocol should support transport of data in any format including: XML, JSON, MTL (ALias/Waveformat, .mtl), protobufs, and ascii text. [L-Data-REQ-05 Use Case]
- DF-REQ-03: I2RS
 - L-DATA-REQ-06: i2RS Transports must be able to be chose by I2RS Client-I2RS Agent pair. An I2RS Client-I2RS Agent should be allowed to negotiate transport

DF-REQ-04/DF-REQ-05

IPFIX Protocol + Templates

- DF-REQ-04: Support for the ability to send traffic monitoring information using IPFIX protocol and IPFIX templates,
- DF-REQ-05: Support of transmitting traffic statistics for filter-based policies (BGP-FS, I2RS FB-RIB, policy routing), IPPM, SFLOW, and others in yang data model format or IPFIX templates formats over XML or JSON.
- Use case requirements
 - L-Data-REQ-05 – IP FIX forms
 - PI-REQ-05 (traffic monitoring)

DF-REQ-06: Resources Monitored

- DF-REQ-06: I2RS should be able to support an action which allocates internal resources for the I2RS agent (memory, processing time, interrupts) and outbound data flow bandwidth.
 - Controlled action(s) would be included in a data model in an "rpc"-like format in yang.

DF-REQ-08: OAM interaction

- DF-REQ-07: The I2RS should be able to support an action that interacts with routing OAM functions.

DF-REQ-08: Adjusts to Network Outages

- DF-REQ-08: The I2RS Agent must be able signals that it will be using different protocol with different constraints (security, priority of data, or transport) or different constraints on the existing protocol (smaller message sizes, different priorities on data carried, or different security levels).

Yang changes

- DF-REQ-09: Yang MUST have a way to indicate in a data model has actions which allow:
 - different transports,
 - different resource constraints, or
 - different security.
- DF-REQ-10: Yang MUST have a way to indicate a data model has different levels of checking where:
 - (Syntax only) lowest level is message form only,
 - (non-referential) non-referential checks + data syntax
 - (full) – All checksThe default level for I2RS is message format plus data syntax.