

Doing Better Than SNMP

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What we have today

- SNMP
- CLI scraping
- ...and that's about it.

SNMP

S is a lie!

- Impossible use for large data set retrieval.
- Performance bound.
- Tree structure and linear indexing do not line up well with OS data structures, leading to excessive memory and CPU consumption.



CLI scraping

- White space change, anyone?
- Or typos
- Or corrections
- Or unit changes
- Do I need to go on?

What do we need?

- Retrieve large data sets
- With high resolution
- Without hammering CPU or memory



What would we like?

- A flexible framework
- Data-model driven
- Capability negotiation
- Format agnostic
- Transport options
- Query/filtering
- Introspection
- Timestamps
- Pub/sub



What would we like?

- Keep complexity out of this
 - Availability
 - Reliability
 - Security
 - All solved better by specific implementation of NMS
- Get data off the box, then figure out what to do with it

How would we use it?

- Asynchronous and Synchronous data
 - Events
 - Subscriptions
- Streaming and one-offs
 - RIB snapshot
 - Stream RIB updates
- Push and pull

Leverage existing protocols

- Use this framework to dynamically request monitoring data
- IPFIX
- SFLOW
- NetFLOW
- BMP

Use the same framework for everything

- For example, interface data
 - Billing
 - Traffic Engineering



Let's not invent much

- Netconf + extensions
 - YANG
 - Pub/sub
 - Command and control
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- I2RS WG