

Telemetry Proposal

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Name

Telemetry

Repo Name

telemetry

Description

Traditional way to get running information from network device, such as snmp or netflow, is becoming insufficient in sdn network. Because sdn application needs better performance and more flexible data format. It's necessary to implement a telemetry channel to support new app in sdn(e.g. traffic optimization).

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[architecture](#)

telemetry channel could be defined as control plane and data plane, as the picture below

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- Control plane

Control plane implements a configuration channel which can be used to set data type/frequency/data destination of telemetry in the target device. SBI of control plane is openconfig model based and NBI is Restful API based.

- Data plane

data plane of telemetry is a stream channel. It is supposed to be constructed based on GRPC, a google open-source project. Device running telemetry could send data with the stream channel to any kinds of processor include sdn controller. Data format in GRPC is defined with google protocol buffer(GPB) and there is no any standard definition model.

Components

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Components	Description
NB API	telemetry configuration northbound API definition, such as create telemetry or set telemetry destination.
configuration	Receive the input from NBI, persistent data, and finish the configure with SBI to device.
Runtime server	Receive runtime data from telemetry on device
Data processor	1.implement a data listener service, allow apps to register telemetry data with types. 2. Process telemetry runtime data and notify to apps.

Dependency

Telemetry projects will have dependency on these projects: MD-SAL, controller, netconf, yang-tools, dlux.

Scope

What is the full scope of your proposal? What other components might be affected by this proposal?

Resources Committed (developers committed to working)

TBD

Initial Committers

wang.senxiao@zte.com.cn
ding.rui@zte.com.cn
he.yunbo@zte.com.cn
zhu.jianxun2@zte.com.cn
li.feng3@zte.com.cn
huan.linying@zte.com.cn

Vendor Neutral

The project is made from scratch, no vendor code, logos nor is anything included.

Meets Board Policy (including IPR)

New Project. No Inbound Code Review required