Open for All.
Advanced Telemetry in SAI/SONiC

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Key Telemetry Use Cases

- Granular Latency Monitoring & Packet Path Tracing
- Congestion Monitoring of Networks
- Packet Drop Monitoring
- Elephant Flow Monitoring
- Enhanced Policy Enforcement & Security
- Scalable Telemetry Gathering
- Dynamic Traffic Engineering

Broadcom Is Contributing To SAI Specification To Deliver Advanced Telemetry Use Cases
Inband Flow Analyzer (IFA)

- IFA delivers Inband Telemetry
- Each hop adds its metadata to the user packet in the dataplane
- Metadata is gathered from each node in a cumulative manner
- Last network node removes the metadata and sends one consolidated report to the collector application
Mirror on Drop (MoD)

- Delivers packet drop visibility in real-time
- Supports Stateful & Stateless packet drop monitoring
- Application receives a copy of the dropped packet along w/ drop reason
Flow Tracker (IPFIX)

- Enables IPFIX based flow monitoring
- Facilitates real-time traffic engineering
- Provides visibility into elephant flows
- Supports granular policy enforcement and security use cases
- Delivers network forensics & bandwidth analysis
- HW based solution delivers high scalability
Streaming Telemetry

- Silicon streams telemetry reports directly to a remote collector
- Flexible support for encapsulation including Protobuf
- Reports can include MMU Stats, Flex Counters, Port Stats etc.
Call to Action

• Let’s collaborate to enhance TAM specification to make it complete for advanced telemetry use cases


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MARCH 4 & 5, 2020 | SAN JOSE, CA