Flow Monitor

Collect and store performance data from a simulation. **More...**

Classes

class **ns3::FlowClassifier**

Provides a method to translate raw packet data into abstract `flow identifier` and `packet identifier` parameters. **More...**

class **ns3::FlowMonitor**

An object that monitors and reports back packet flows observed during a simulation. **More...**

class **ns3::FlowMonitorHelper**

Helper to enable IP flow monitoring on a set of Nodes. **More...**

struct **ns3::FlowMonitor::FlowStats**

Structure that represents the measured metrics of an individual packet flow. **More...**

class **ns3::Ipv4FlowProbe**

Class that monitors flows at the IPv4 layer of a **Node**. **More...**

class **ns3::Ipv4FlowProbeTag**

Tag used to allow a fast identification of the packet. **More...**

class **ns3::Ipv6FlowProbe**

Class that monitors flows at the IPv6 layer of a **Node**. **More...**

class **ns3::Ipv6FlowProbeTag**

Tag used to allow a fast identification of the packet. **More...**

struct **ns3::FlowMonitor::TrackedPacket**

Structure to represent a single tracked packet data. **More...**

Typedefs

typedef uint32_t **ns3::FlowId**

Abstract identifier of a packet flow. **More...**

typedef uint32_t **ns3::FlowPacketId**

Abstract identifier of a packet within a flow. **More...**

Enumerations

enum **ns3::Ipv4FlowProbe::DropReason** {
ns3::Ipv4FlowProbe::DROP_NO_ROUTE = 0, **ns3::Ipv4FlowProbe::DROP_TTL_EXPIRE**,
ns3::Ipv4FlowProbe::DROP_BAD_CHECKSUM, **ns3::Ipv4FlowProbe::DROP_QUEUE**,
ns3::Ipv4FlowProbe::DROP_QUEUE_DISC, **ns3::Ipv4FlowProbe::DROP_INTERFACE_DOWN**,
ns3::Ipv4FlowProbe::DROP_ROUTE_ERROR, **ns3::Ipv4FlowProbe::DROP_FRAGMENT_TIMEOUT**,
ns3::Ipv4FlowProbe::DROP_INVALID_REASON
}

enumeration of possible reasons why a packet may be dropped **More...**

enum **ns3::Ipv6FlowProbe::DropReason** {
ns3::Ipv6FlowProbe::DROP_NO_ROUTE = 0, **ns3::Ipv6FlowProbe::DROP_TTL_EXPIRE**,
ns3::Ipv6FlowProbe::DROP_BAD_CHECKSUM, **ns3::Ipv6FlowProbe::DROP_QUEUE**,
ns3::Ipv6FlowProbe::DROP_QUEUE_DISC, **ns3::Ipv6FlowProbe::DROP_INTERFACE_DOWN**,
ns3::Ipv6FlowProbe::DROP_ROUTE_ERROR, **ns3::Ipv6FlowProbe::DROP_UNKNOWN_PROTOCOL**,
ns3::Ipv6FlowProbe::DROP_UNKNOWN_OPTION, **ns3::Ipv6FlowProbe::DROP_MALFORMED_HEADER**,
ns3::Ipv6FlowProbe::DROP_FRAGMENT_TIMEOUT, **ns3::Ipv6FlowProbe::DROP_INVALID_REASON**
}
enumeration of possible reasons why a packet may be dropped **More...**

Detailed Description

Collect and store performance data from a simulation.

Typedef Documentation

typedef uint32_t ns3::FlowId

Abstract identifier of a packet flow.

Definition at line **33** of file **flow-classifier.h**.

typedef uint32_t ns3::FlowPacketId

Abstract identifier of a packet within a flow.

Definition at line **39** of file **flow-classifier.h**.

Enumeration Type Documentation

enum ns3::Ipv4FlowProbe::DropReason

enumeration of possible reasons why a packet may be dropped

Enumerator	
DROP_NO_ROUTE	**Packet** dropped due to missing route to the destination.
DROP_TTL_EXPIRE	**Packet** dropped due to TTL decremented to zero during IPv4 forwarding.
DROP_BAD_CHECKSUM	**Packet** dropped due to invalid checksum in the IPv4 header.
DROP_QUEUE	**Packet** dropped due to queue overflow. Note: only works for NetDevices that provide a TxQueue attribute of type **Queue** with a Drop trace source. It currently works with Csma and PointToPoint devices, but not with WiFi or WiMax.
DROP_QUEUE_DISC	**Packet** dropped by the queue disc.
DROP_INTERFACE_DOWN	Interface is down so can not send packet.
DROP_ROUTE_ERROR	Route error.
DROP_FRAGMENT_TIMEOUT	Fragment timeout exceeded.
DROP_INVALID_REASON	Fallback reason (no known reason)

Definition at line **56** of file **ipv4-flow-probe.h**.

enum ns3::Ipv6FlowProbe::DropReason

enumeration of possible reasons why a packet may be dropped

Enumerator	
DROP_NO_ROUTE	**Packet** dropped due to missing route to the destination.
DROP_TTL_EXPIRE	**Packet** dropped due to TTL decremented to zero during IPv4 forwarding.
DROP_BAD_CHECKSUM	**Packet** dropped due to invalid checksum in the IPv4 header.
DROP_QUEUE	**Packet** dropped due to queue overflow. Note: only works for NetDevices that provide a TxQueue attribute of type **Queue** with a Drop trace source. It currently works with Csma and PointToPoint devices, but not with WiFi or WiMax.
DROP_QUEUE_DISC	**Packet** dropped by the queue disc.
DROP_INTERFACE_DOWN	Interface is down so can not send packet.
DROP_ROUTE_ERROR	Route error.
DROP_UNKNOWN_PROTOCOL	Unknown L4 protocol.
DROP_UNKNOWN_OPTION	Unknown option.
DROP_MALFORMED_HEADER	Malformed header.
DROP_FRAGMENT_TIMEOUT	Fragment timeout exceeded.
DROP_INVALID_REASON	Fallback reason (no known reason)

Definition at line **57** of file **ipv6-flow-probe.h**.