## NAME

**ng_tcpmss** - netgraph node to adjust TCP MSS option

## SYNOPSIS

**#include <netgraph.h>**
**#include <netgraph/ng_tcpmss.h>**

## DESCRIPTION

The **tcpmss** node type is designed to alter the Maximum Segment Size option of TCP packets. This node accepts an arbitrary number of hooks. Initially a new hook is considered unconfigured. The NG_TCPMSS_CONFIG control message is used to configure a hook.

## CONTROL MESSAGES

This node type supports the generic control messages, plus the following.

NGM_TCPMSS_CONFIG (**config**)

This control message configures node to do given MSS adjusting on a particular hook. It requires the *struct ng_tcpmss_config* to be supplied as an argument:

```
struct ng_tcpmss_config {
        char            inHook[NG_HOOKSIZ];
        char            outHook[NG_HOOKSIZ];
        uint16_t  maxMSS;
}
```

This means: packets received on *inHook* would be checked for TCP MSS option and the latter would be reduced down to *maxMSS* if it exceeds *maxMSS*. After that, packets would be sent to hook *outHook*.

NGM_TCPMSS_GET_STATS (**getstats**)

This control message obtains statistics for a given hook. The statistics are returned in *struct ng_tcpmss_hookstat*:

```
struct ng_tcpmss_hookstat {
        uint64_t  Octets;           /* total bytes */
        uint64_t  Packets;  /* total packets */
        uint16_t  maxMSS;                   /* maximum MSS */
        uint64_t  SYNPkts;          /* TCP SYN packets */
        uint64_t  FixedPkts;        /* changed packets */
};
```

NGM_TCPMSS_CLR_STATS (**clrstats**)
This control message clears statistics for a given hook.

NGM_TCPMSS_GETCLR_STATS (**getclrstats**)
This control message obtains and clears statistics for a given hook.

## EXAMPLES

In the following example, packets are injected into the **tcpmss** node using the ng_ipfw(4) node.

```
# Create tcpmss node and connect it to ng_ipfw node
ngctl mkpeer ipfw: tcpmss 100 qqq

# Adjust MSS to 1452
ngctl msg ipfw:100 config '{ inHook="qqq" outHook="qqq" maxMSS=1452 }'

# Divert traffic into tcpmss node
ipfw add 300 netgraph 100 tcp from any to any tcpflags syn out via fxp0

# Let packets continue with ipfw after being hacked
sysctl net.inet.ip.fw.one_pass=0
```

## SHUTDOWN

This node shuts down upon receipt of an NGM_SHUTDOWN control message, or when all hooks have been disconnected.

## SEE ALSO

netgraph(4), ng_ipfw(4)

## HISTORY

The **ng_tcpmss** node type was implemented in FreeBSD 6.0.

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## BUGS

When running on SMP, system statistics may be broken.