SMGOS

Bandwidth Test (bw-test)

User Guide

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Language: English

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1. Overview

The bw-test command is used to measure IP throughput between two SMGOS routers without requiring external testing tools. The feature supports server mode, one-way testing, and full-duplex bidirectional testing.

2. Command Syntax

```
SMGOS# bw-test
  A.B.C.D   Target server IPv4 address
  server    Start bandwidth test server
```

3. Server Mode

```
SMGOS-2# bw-test server
```

The server runs in the background and remains active for 30 seconds. It automatically stops after the timeout period. The server does not generate traffic until a remote client initiates a test.

4. One-Way Test (Client Mode)

```
SMGOS-1# bw-test 10.100.1.2
```

This mode measures upload throughput from the client to the server.

```
TX (Client ➜ Server):  9.33 Gbps
```

5. Bidirectional Test (Full-Duplex)

```
SMGOS-1# bw-test 10.100.1.2 bidirectional
```

```
TX (Client ➜ Server):  5.63 Gbps
RX (Server ➜ Client):  5.34 Gbps
TOTAL (Full-Duplex):   10.97 Gbps
```

6. Engineering Considerations

Bandwidth testing generates high traffic volumes and increases CPU and interface utilization. Testing should be performed during maintenance windows in production environments.

Measured throughput depends on MTU size, hardware offloading configuration, CPU frequency scaling, and physical link quality.

7. Summary

The bw-test command provides a built-in bandwidth validation tool for SMGOS routers, suitable for backbone validation, commissioning, and troubleshooting in ISP, energy, and SCADA environments.