



A MITEL
PRODUCT
GUIDE

MiVoice MX-ONE

Traffic Measurement - Interworking Description

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Output of traffic data consists of storing blocks/maps of collected traffic data in local/network file systems. Stored data can later be retrieved for printing or post-processing purposes.

This chapter contains the following sections:

- [Enable Traffic Measurement](#)
- [Disable Traffic Measurement](#)
- [Traffic Measurement Initiations](#)
- [Traffic Measurement Collection](#)
- [Traffic Measurement Dumping Process](#)
- [Print Outputs](#)

2.1 Enable Traffic Measurement

To start the traffic measurement, use the "initiate" command. You can include a path parameter. This parameter is optional, and it is needed only if the system doesn't have a designated path for the traffic files. Introducing the path parameter will replace the existing path value if already exists. The path should be a valid directory with an absolute path.

Once traffic measurement is active, you can begin processing data and carrying out other traffic measurement activities. You can also check the status using print commands.

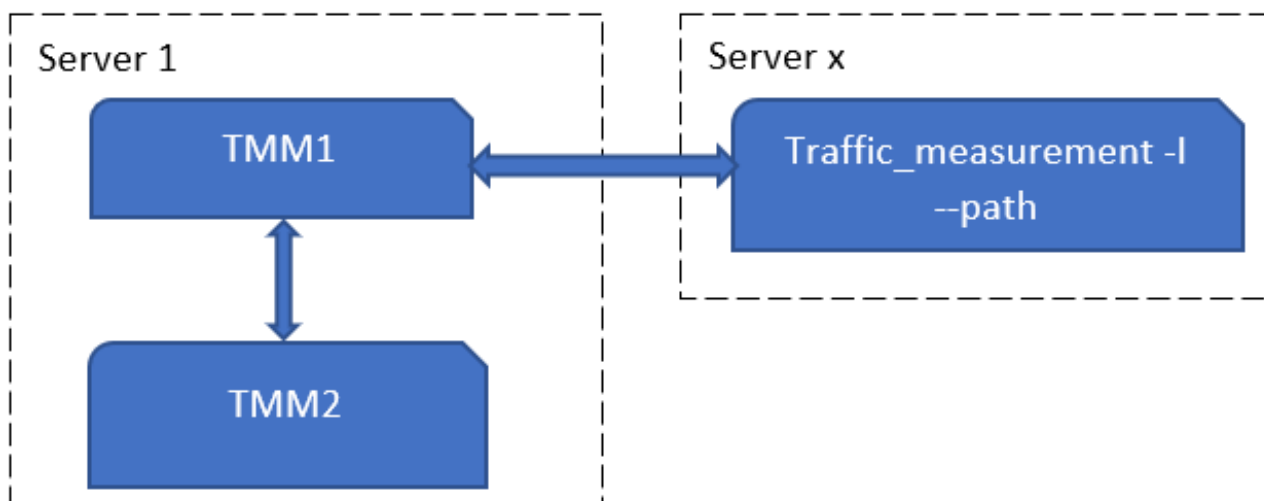


Figure 1: Enable Traffic Measurement

2.2 Disable Traffic Measurement

Use the Erase command to disable all data processing and traffic measurement activities. All ongoing measurements must be removed before executing the Erase command.

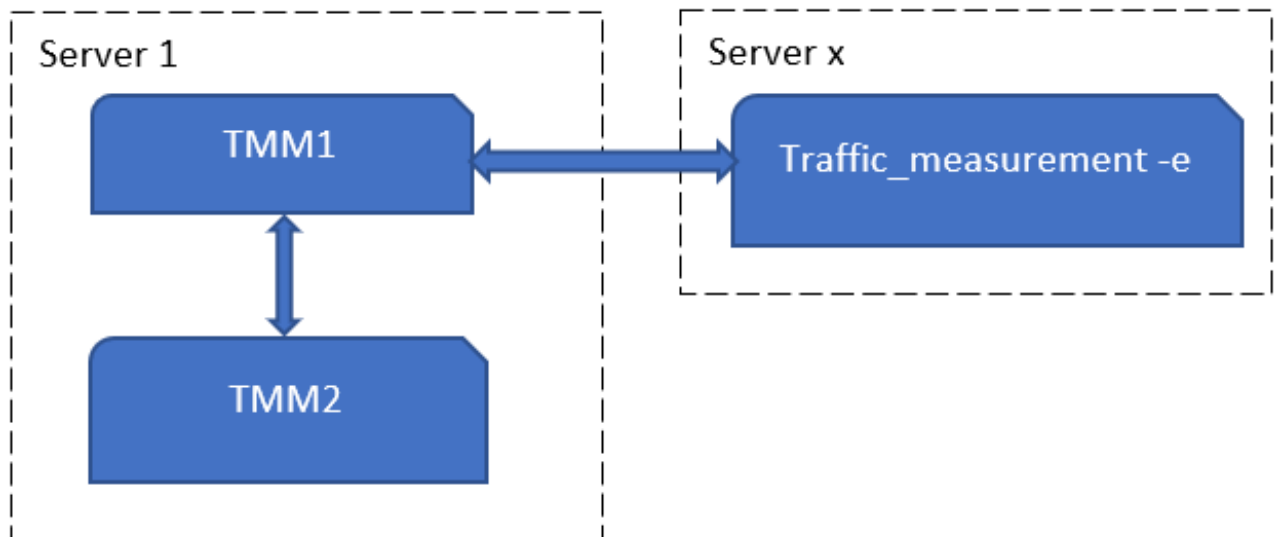


Figure 2: Disable Traffic Measurement

2.3 Traffic Measurement Initiations

To start the measurements, different type of objects are marked by TMR for traffic measurement. The measurements can be initiated for a specific duration of days in a month, year, or till 2038-12-31.

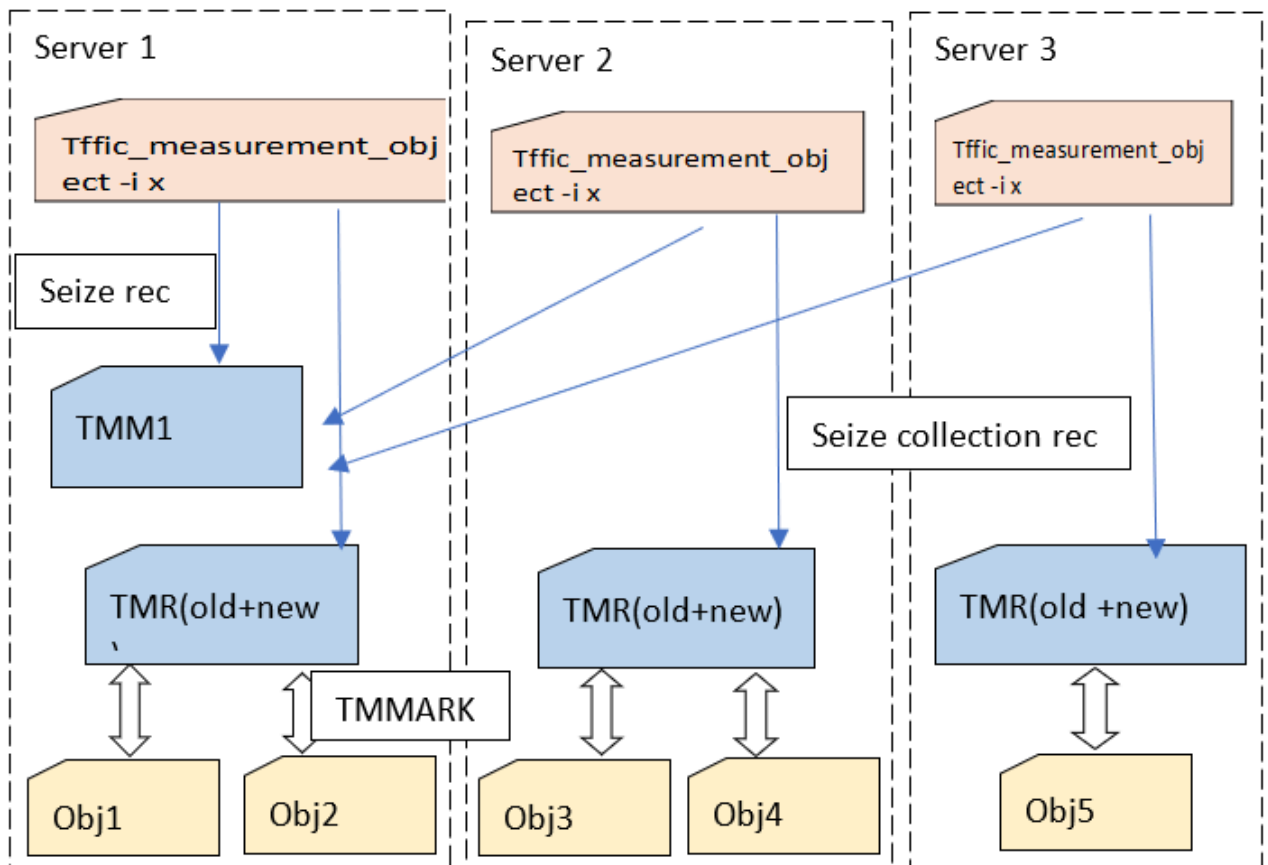


Figure 3: Initiation of Traffic Measurement

2.4 Traffic Measurement Collection

TMR runs in all the LIMS. Traffic measurement data is collected every 15 minutes (quarter hour sample) by TMR from all the marked objects and sent to TMM2 for storage.

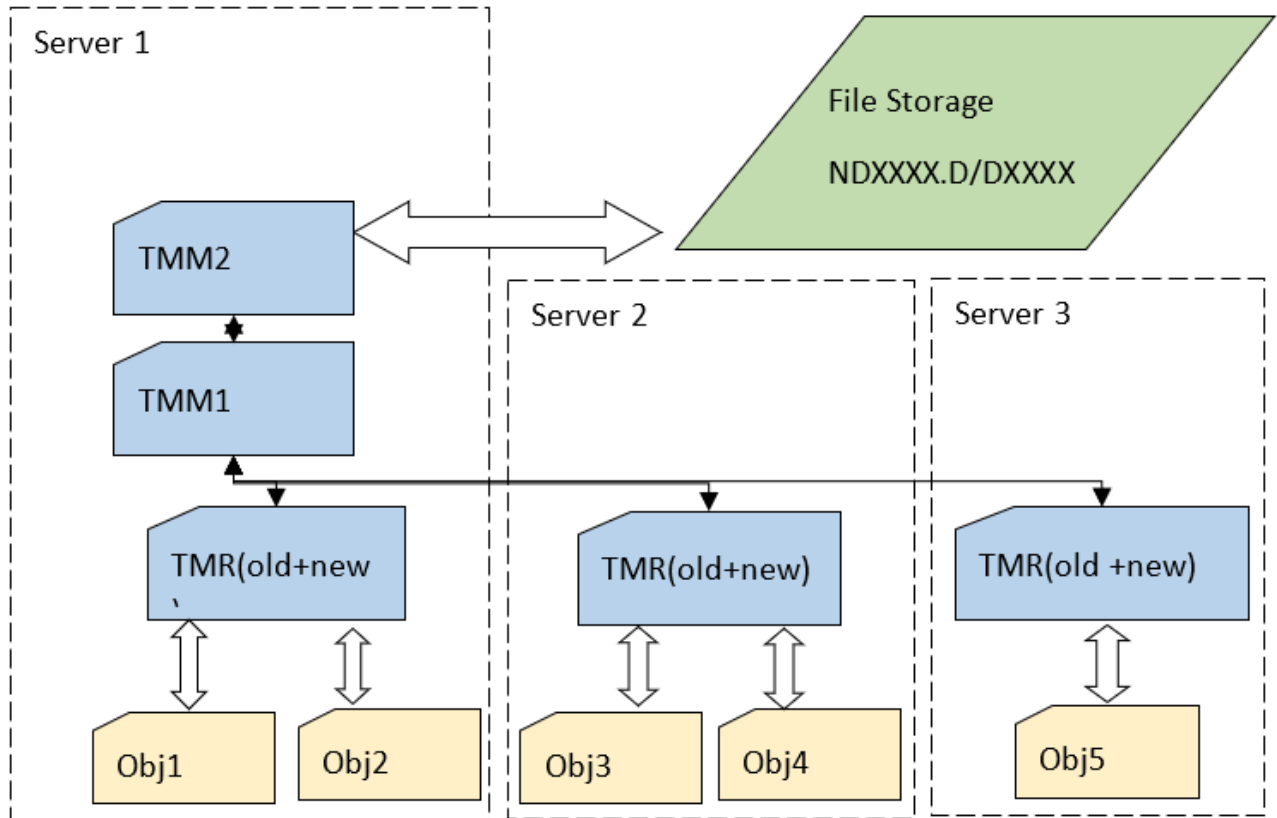


Figure 4: Collection of Traffic Measurement Data

2.4.1 Old Objects

All data from old measuring objects is collected by TMR and sent in 34-byte binary chunks for each measurement to TMM1. TMM1 aggregates the data based on the object type and sends a 50-byte chunk of data for each object type to TMM2.

2.4.2 New Objects

The data is organized into containers and collected by the TMR before sending to the TMM2 (via TMM1) for storage without any alterations. The measuring objects CTI Group, ACD group, and IP DOMAIN are newly added to collect and store the data in containers. Each quarter's data container has a recorded object structure. The structured form of data collection is extended to all the measurement objects.

```
enum RecordingType
{
    counter,           // 0
    average            // 1
};
```

```

struct RecordedData {
    string          counterName;
    unsigned long   counter;
    unsigned long   divisor;
    RecordingType    recordingType;
    unsigned short   width;
};
struct RecordedObject
{
    string          objectName;
    TimeValue       timeStamp;
    sequence<RecordedData> recordedDatas;
    sequence<unsigned short> timers;
    sequence<unsigned short> lms;
    sequence<string>      infos;
    unsigned short   measureNumber;
    bool             newDayFlag;
};

```

2.5 Traffic Measurement Dumping Process

TMM1 collects data every fifteenth minute of the hour and sends it to TMM2 for storage in main memory at 2, 17, 32, and 47 minutes of the hour for a 4-minute duration. The data from main memory is then stored into files at 6, 21, 36, and 51 minutes of the hour.

During the data dump process, a new file is created in a specific location in the local or network file system of the MX-ONE Service Node. This specific location is chosen by the user by using the I/O command.

2.5.1 Old Object Types

The dump process fails if the file system has no space left or if the user running the MX-ONE Service Node has reached the storage limit. In this case, the TR data dump files must be removed to free up space for the new traffic measurement dumps.

2.5.2 New Object Types

There is no restriction on size of the file for New object types such as ACD, CTI, and IP-DOMAIN. The TR data dump file names are generated by dump number and date with the following format:

[N]Dnyddd[.D]

Where,

- N = New data dump file for container format data dumping
- D = Character denoting traffic measurement data dump
- n = Data dump number (ranges from 0 to 3)
- y = Last digit of the year the data dump is stored
- ddd = Day of the year the data dump is stored

For example,

- D02047 is the name of a TR data dump file stored on February 16, 2022.
- ND02047.D is the name of TR data dump file for container format data storage that is, IP DOMAIN, ACD, and CTI groups.

There can be a single data dump per day. Traffic data stored in the file system can be read by I/O command.

2.6 Print Outputs

Quarterly data is fetched from TMM2 for specified traffic measurement objects.

Output of the traffic measurement data can be printed in both text and xml format.

2.6.1 Text Output Format

Providing a sample output for legacy extensions:

```
mxone_admin@TRTEST:~> traffic_measurement_object -p --measurement-number
0 --period 2 --start-date 2024-10-04 --stop-date 2024-10-04 --start-time
13:00 --stop-time 14:15
Traffic Recording Result Data
```

Date	Meno	Object	Start	Stop	Time	Lim	Info
04OCT24	0	EXTENS	04OCT24	31DEC38	13:00-22:00	1	
TIME		TRAFF	CALLS	NDV	NBLO		
13:00-13:15	0.00	0	10	3			
13:15-13:30	0.17	17	10	3			
13:30-13:45	0.08	23	10	3			
13:45-14:00	0.24	38	10	3			
14:00-14:15	0.20	25	10	3			
End							

2.6.2 XML Output Format

```
MDSH> traffic_measurement_object -p --measurement-number 0 --period 2 --
output-format xml
<?xml version="1.0" encoding="UTF-8"?>
<TrafficRecordingResultData xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
  <date>2024-10-17 </date>
  <measurementNo>0</measurementNo>
  <object>EXTENS</object>
  <startDate1>2024-10-17</startDate1>
  <stopDate1>2024-10-17</stopDate1>
  <startDate2/>
  <stopDate2/>
  <info>300</info>
  <interval>10:00-23:00</interval>
  <recordedData>
    <time>10:00-10:15</time>
    <counter>
      <name>TRAFF</name>
      <value>0.00</value>
```

```

    </counter>
    <counter>
      <name>CALLS</name>
      <value>0</value>
    </counter>
    <counter>
      <name>NDV</name>
      <value>1</value>
    </counter>
    <counter>
      <name>NBLO</name>
      <value>1</value>
    </counter>
  </recordedData>
  <recordedData>
    <time>10:15-10:30</time>
    <counter>
      <name>TRAFF</name>
      <value>0.00</value>
    </counter>
    <counter>
      <name>CALLS</name>
      <value>0</value>
    </counter>
    <counter>
      <name>NDV</name>
      <value>1</value>
    </counter>
    <counter>
      <name>NBLO</name>
      <value>0</value>
    </counter>
  </recordedData>
  <recordedData>
    <time>10:30-10:45</time>
    <counter>
      <name>TRAFF</name>
      <value>0.16</value>
    </counter>
    <counter>
      <name>CALLS</name>
      <value>18</value>
    </counter>
    <counter>
      <name>NDV</name>
      <value>1</value>
    </counter>
    <counter>
      <name>NBLO</name>
      <value>0</value>
    </counter>
  </recordedData>
  <recordedData>
    <time>10:45-11:00</time>
    <counter>
      <name>TRAFF</name>
      <value>0.12</value>
    </counter>
    <counter>
      <name>CALLS</name>
      <value>18</value>
    </counter>
    <counter>
      <name>NDV</name>

```

```
        <value>1</value>
      </counter>
    <counter>
      <name>NBLO</name>
      <value>0</value>
    </counter>
  </recordedData>
  <recordedData>
    <time>11:00-11:15</time>
    <counter>
      <name>TRAFF</name>
      <value>0.12</value>
    </counter>
    <counter>
      <name>CALLS</name>
      <value>15</value>
    </counter>
    <counter>
      <name>NDV</name>
      <value>1</value>
    </counter>
    <counter>
      <name>NBLO</name>
      <value>0</value>
    </counter>
  </recordedData>
  <recordedData>
    <time>11:15-11:30</time>
    <counter>
      <name>TRAFF</name>
      <value>0.16</value>
    </counter>
    <counter>
      <name>CALLS</name>
      <value>14</value>
    </counter>
    <counter>
      <name>NDV</name>
      <value>1</value>
    </counter>
    <counter>
      <name>NBLO</name>
      <value>0</value>
    </counter>
  </recordedData>
  <busyHourStartTime>10:30</busyHourStartTime>
</TrafficRecordingResultData>
```

The interface out from an external device depends on the type of equipment used. For more information, refer to the respective equipment documents.

