CISTECH SOLUTIONS

Interoperability Specialists

NETSPANNER USER GUIDE

SOFTWARE RELEASE: 2.0

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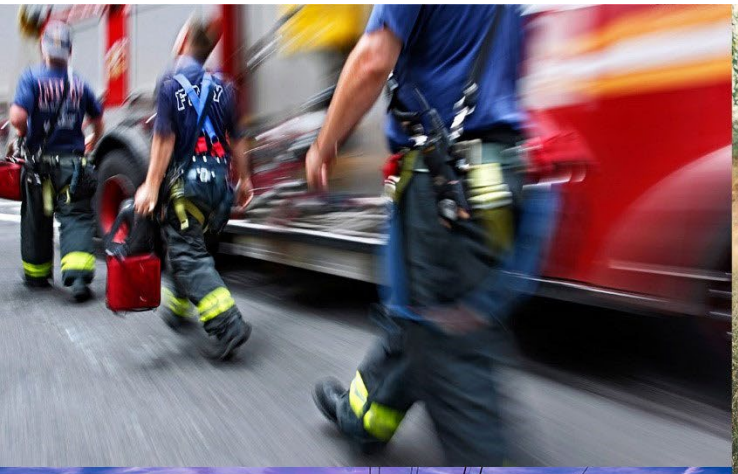
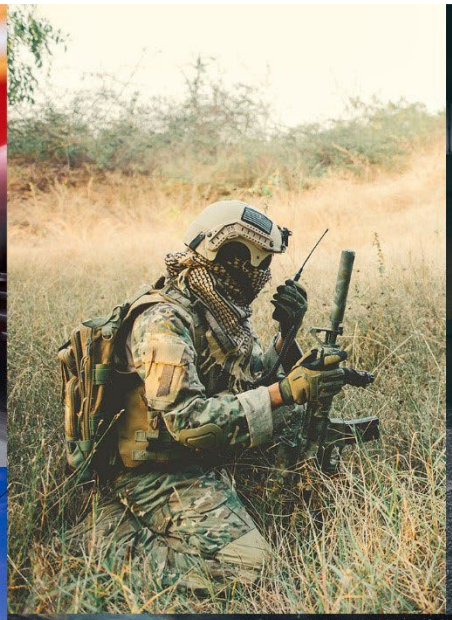


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1. Introduction

NetSpanner is a free networking testing tool designed to assist with the diagnosis of Multicast traffic distribution on a network. NetSpanner can operate in both Unicast and Multicast to allow validation of Unicast connectivity if issues are experienced with Multicast traffic delivery.

NetSpanner version 2 is an updated instance of the original that aims to bring a more ready to use application that can operate across multiple platforms.

NetSpanner can operate as a standalone portable application for Windows and Linux, and is also provided as an installer for Windows. When the application is installed, multiple instances can be run at the same time if required.

NetSpanner is also offered as an APK for Android based systems.

2. System Requirements

2.1. Windows

Operating System: Windows 10 / Windows 11 with Microsoft .Net 4.8 (dependencies included in installer)

Hardware: NetSpanner does not require specific hardware.

Graphics: No minimum graphics required.

2.2. Android

Operating System: Minimum API Level 21 (Android 5)

2.3. Linux

Operating System: Debian, Ubuntu and Linux Mint tested. CentOS 7 not supported.

Other Requirements: Dependencies are contained in the bin file, run below commands:

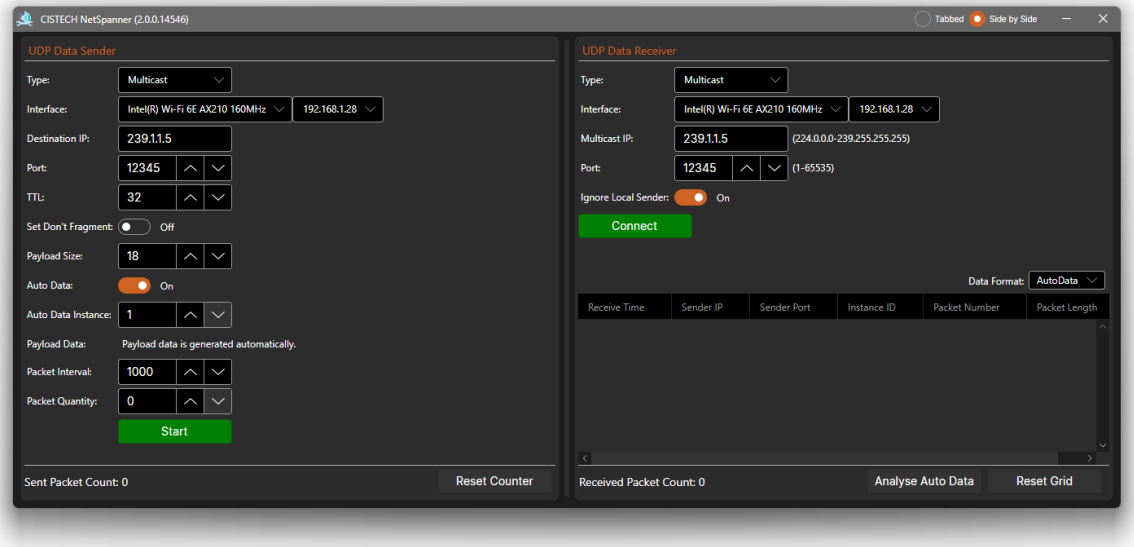
- chmod 0777 ./NetSpanner.Linux.2.0.0.13764.bin
- sudo ./NetSpanner.Linux.2.0.0.13764.bin

3. Using NetSpanner

3.1. User Interface

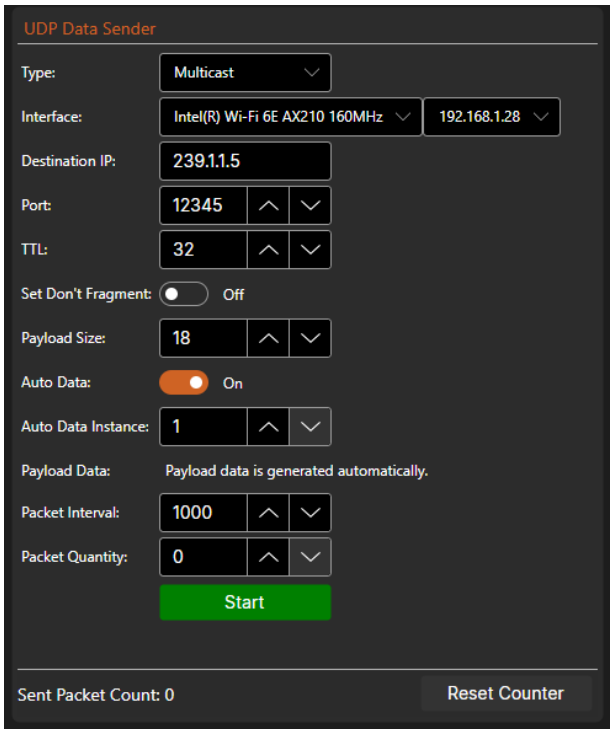
The user interface can be changed from Side by Side to Tabbed using the selectors in the top right of the screen. Tabbed mode allows for easier identification if multiple instances are in operation.

Windows and Android Tablets have Side by Side set as Default, where smaller Android screens have Tabbed mode set as default.



3.2. Settings

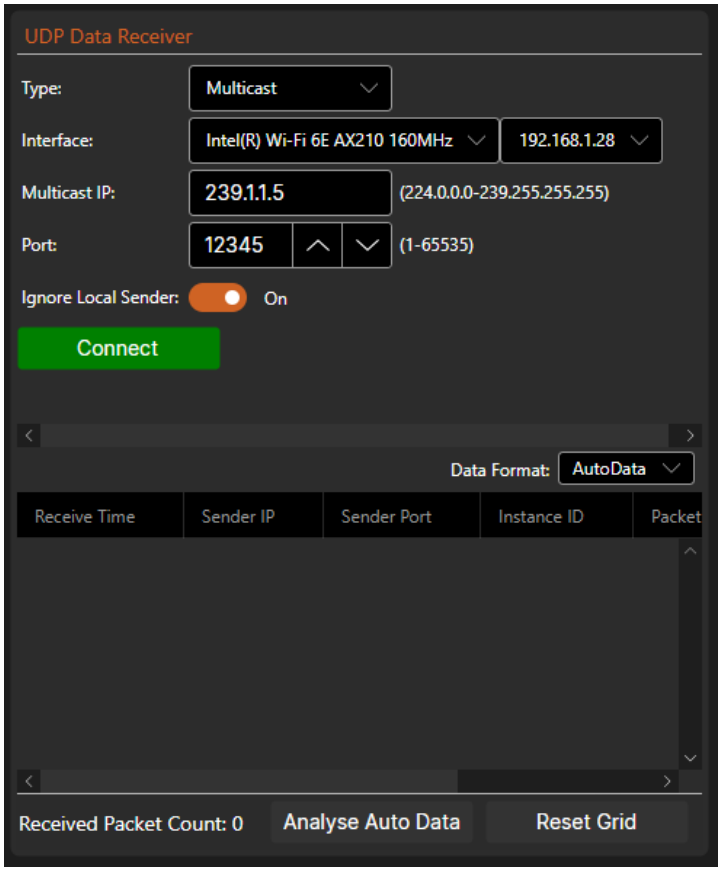
3.2.1. UDP Sender



Type	Multicast or Unicast Data.
Interface	The network interface to send the data out on. This is important for devices that may have multiple network interfaces connected simultaneously. The interface configuration also provides the ability to define the bound IP address to use as the source IP if multiple are configured on an interface.
Destination IP	The destination IP address for packets to be sent to. This needs to align with the type select above with respect to valid IP address ranges.
Port	The destination port of the sent IP Packets.
TTL	The Time to Live of each Packet.
Set Don't Fragment	Determines if the Do Not Fragment header field is set.
Payload Size	This is the size of the payload in the packet.
Auto Data	Auto Data is a new function in NetSpanner 2.0 and allows for additional information to be recovered on the receiver side. If auto data is enabled, then the data sent will allow packet ID and sequence numbers to be transmitted so that information such as number of lost or out of sequence packets can be determined on the receiver end. If Auto Data is disabled, then the user can define the actual Payload data. If the user chooses to edit the Payload Data, the Payload size will automatically be adjusted to match the data.
Auto Data Instance	This sets the Instance ID for the sender when Auto Data is enabled. The instance ID is used to identify the sender instance and allows multiple NetSpanner instances to send on a Common Multicast addressed and be identified individually at the receiver. The Instance ID also assists on the Data Receiver in rejecting local traffic if the "Ignore Local Sender" setting is enabled.
Payload Data	Defines the payload data transmitted if the Auto Data is disabled.
Packet Interval	Delay period in milliseconds between the sending of each packet. Minimum packet interval is 20ms.
Packet Quantity	The total number of packets sent for the session. If set to 0, NetSpanner will send packets continuously until manually stopped.

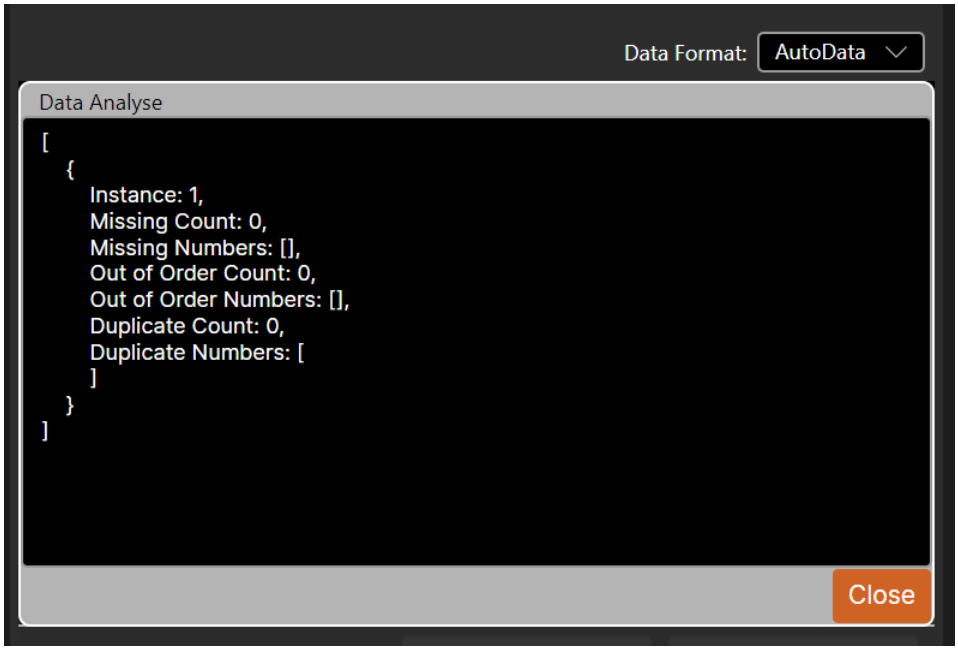
Sent Packet Count	The number of packets transmitted in this session.
Reset Counter	Resets the Sent Packet Count.

3.2.2. UDP Data Receiver



Type	Select between Multicast and Unicast for the intended received traffic type.
Interface	Select the interface that the packets are desired / expected to be received on. For Multicast, this is the interface that the IGMP join will be sent on.
Multicast IP	The Multicast IP address for data reception. If the Type selected is Unicast, this field is not required as the remote Unicast data will be sent to the Unicast IP Address.
Port	The network port for receiving data for both Multicast and Unicast data.
Ignore Local Sender	Enable this to reject display of packets that are sent by the application. Disable this to display locally sent data in the application. Ignore Local Sender is enabled by default to assist with rapid setup and testing. When enabled, multiple instances on NetSpanner can be launched and configured with separate Instance ID's on the sender side, and the displayed data will reject any local data. This will allow remote connectivity to be validated without the need to configure separate Multicast IP Groups.
Data Format	Adjust the display format of the received data. Available options are: • AutoData: Decodes the received data as Auto Data from the sender • Hex: Display the received data as Hex • Text: Display the received data as Text
Received Packet Count	Displays the number of received packets.

Auto Analyse Data	This launches the Data Analysis window and displays advanced data about the received data. This will only be available if Auto Data is configured on the sender side. The output will contain JSON formatted results per instance ID received that will display additional data such as number of lost packets (including the sequence numbers that were lost) and out of order packets.



Reset Grid	Resets the received data table and packet count.