Shunra Reports and Analysis **Quick Page**

VE Desktop Analyzer

To isolate and to improve application performance, use the VE Analyzer to identify and diagnose the source of potential performance issues. Drill down to the cause of the problem, and then make the required changes to applications and infrastructure. VE Analyzer can analyze transactions as short as one millisecond. For more information, refer to the VE Desktop Analyzer Manual.

To install VE Analyzer:
From the Shunra Installer you downloaded (or from the VE Desktop CD), select VE Analyzer and follow the instructions in the Setup wizard. Note that the VE Desktop Client should be installed first. In configurations with HP Software, the VE Analyzer should be installed on the HP Load Generator.

Configuring and Conducting Analysis

When designing a test, ensure that the test includes a packet list. For detailed transaction information, include timing transaction information (see below).

To access the VE Desktop Analyzer:
Launch VE Desktop Analyzer, which includes the VE Reporter, from Start > Programs > Shunra Virtual Enterprise > VE Reporter.

To conduct analysis:

1. After the emulation has completed, select Analyze > Create Analysis or click the Analysis icon in the toolbar.
2. Select the Type, Filter etc. You can re-edit the results; last results overwrite earlier results by default.

Configuring Packet Capture Capabilities

To capture packets for VE Analyzer, Packet List options must be configured to capture 1514 bytes, the maximum size of an Ethernet Packet. To capture a large amount of traffic, or for a long period of time, increase the Packet Buffer size (up to 1 GB).

Tips

- To conduct analysis on transactions marked using Transaction Timing, transactions need to be identified and filtered by either Port number or IP address.
- Encrypted packet payloads will not be processed by VE Analyzer
- Up to 1 GB of data can be captured; therefore add filters to the Packet List definition in VE Analyzer to make sure that only the relevant data is analyzed.
- Longer tests usually display more accurate results

Configuring a Filter

Configure a Packet List filter to include the IPs involved in the transactions you want to analyze.

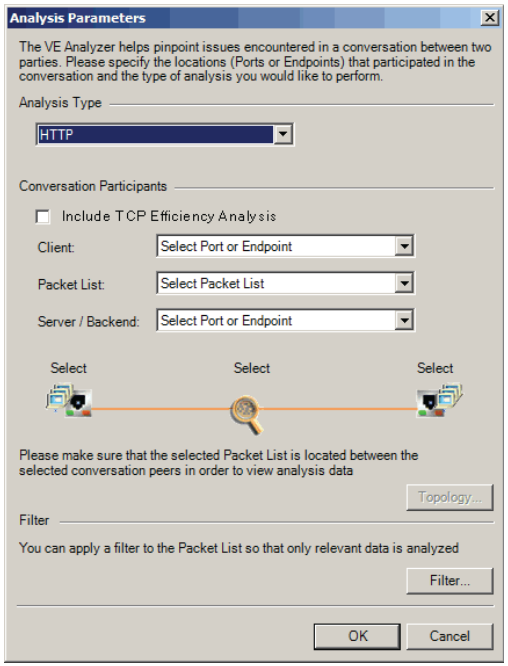
To configure a Packet List filter:
From the VE Analyzer dialog box, click [Filter].

- **From and To Time (Time Based Filters):** includes data that falls within the configured From and To times
- **Location IP address (IP Based Filters):** includes only data based on specific IP addresses

For further information, refer to the VE Desktop Analyzer Manual.

Integrating Transaction Timing in Tests

Use Transaction Timing to measure the Transaction Response Time (TRT) of individual transactions, and record whether these transactions have passed or failed Service Level Objectives (SLO)s.
This enables the VE Analyzer to identify the individual transactions by name, and display each transaction in the analysis report. If you do not use Transaction Timing to mark transactions during a test, data will be displayed on a generic level giving each transaction a generic name like Transaction 1, etc.



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Analyzing Results

TCP Efficiency analysis can help determine problems relating to window size if the network stack is properly optimized for the application and network and whether to determine whether the application client or server is the source of a bottleneck.

Optimal Data Transport

Bytes In Flight data and Bandwidth Delay Product data assist in determining if data transport between the client and server are efficient:

- **Low Bandwidth Delay Product and High Bytes In Flight data**: may mean that the application is sending more data than your network is capable of transporting, which may result in a bottleneck
- **High Bandwidth Delay Product and Low Bytes In Flight data**: may mean that the application is sending less data than your network is capable of transporting, indicating inefficient usage of network resources

Packet Analysis

The Shunra Packet List captures packets in real time; packet analysis can provide in-depth traffic analysis referenced against the VE Analyzer reports.

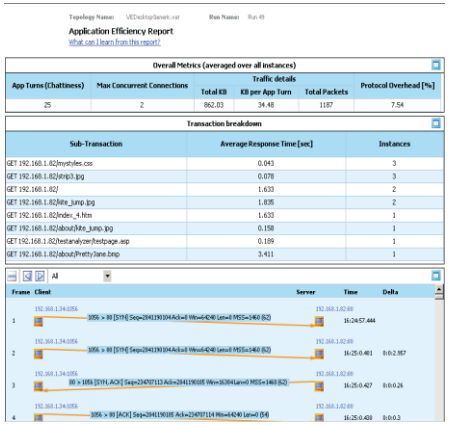
To display the content of packets captured during an emulation:

1. Load the desired test in VE Reporter.
2. Select Tools > Packet List Viewer.
3. From the sub-menu, select the desired packet list; by default, the packet list opens in Wireshark.

VE Analyzer Reports

- **Summary**: provides an overview of the tested application's performance, and displays data regarding both the network infrastructure, and the application itself.

- **Analysis Definitions**: Provides an overview of the configured topology and contains definitions and ports that were utilized during the test.
- **Transaction Markers**: identifies the packets that mark the first and last frame of a transaction.
- **Application Efficiency**: displays a breakdown of transactions (when a test has been conducted with transaction marking) by sub transactions, lists the content of each sub transaction (e.g. images, css, scripts), and the response time per sub transaction. The report also contains a bounce diagram that displays every phase of a transaction



- **Bandwidth Bottleneck**: displays data regarding the bandwidth utilization and throughput of gateways that have been configured to limit traffic; use this report to determine if the source of a performance problem is related to the network infrastructure, particularly the amount of available bandwidth and the configuration of the emulated network interfaces.
- **Error and Warning Status**: lists the various errors that occurred during a test, by protocol and error type. A secondary table lists errors by sub-transaction.
- **Infrastructure Breakdown:** displays the response time by transaction; use to whether performance related issues are occurring in the client, server or network.
- **TCP Efficiency Analysis**: displays the number of bytes in transit (being transported between the client and server) at any given time. For this report to be available, when configuring the test, select "Capture packets for TCP Efficiency analysis" in VE Desktop Client > Options > Settings. A second Packet List is automatically added to the test; both enable the determination of the amount of bytes in flight at any given moment.

For further information, contact us at:
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