

Day 13- Un-limit your Broadband Access statistic capabilities

Testing Challenge:

While testing broadband technologies, e.g. PPPoE, test engineers usually have to compare the sessions they see established on the DUT with the sessions that their test tool indicate as established. Without a facility to easily and quickly offer such capability leads to wastage of valuable time when troubleshooting.

IxNetwork 5.40 Solution:

With IxNetwork 5.40, the user has the power to see statistics on a per-session level (instead of from a global port or test level). For example, if the test involves 100 PPPoE sessions, the user can see statistics for each of those 100 sessions separately.

In addition the user can select from more than 40 statistics to display, including negotiated Control Plane fields.

- Within Statistics, right click any range and select the “**DrillDown Per Session**” option.

The screenshot displays the IxNetwork StatViewer interface. The left pane shows a tree view of statistics categories: Views (Total: 28), Defaults (Total: 28), Ports (Total: 4), Protocols (Total: 24), Overview (Total: 2), Broadband-Access (Total: 22), and PPPoX (Total: 22). Under PPPoX, 'PPP General Statistics' is selected. The right pane shows a table with columns 'Stat Name' and 'Sessions Initiated'. A context menu is open over the table, with 'DrillDown Per Session' highlighted.

Stat Name	Sessions Initiated
10.200.134.41/Card01/Port01	100

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- The per-session statistics, for all 100 sessions individually, will appear on the PPPoX Per Session tab.

The screenshot shows the IxNetwork software interface. The main window is titled "IxNetwork [PPPoX-PTA-IP.ixncfg]". The "Statistics" pane on the left shows a tree view with "PPPoX Per Session" selected. The main area displays a table of session statistics for the "PPPoX Per Session" tab. The table has the following columns: "Stat Name", "Interface Identifier", "Range Identifier", "PPP State", and "PPP Close Mode". The data rows show sessions for the interface "10.200.134.41/Card1/Port1" with Range Identifiers from 00 to 11. All sessions are in the "PPP Connected" state.

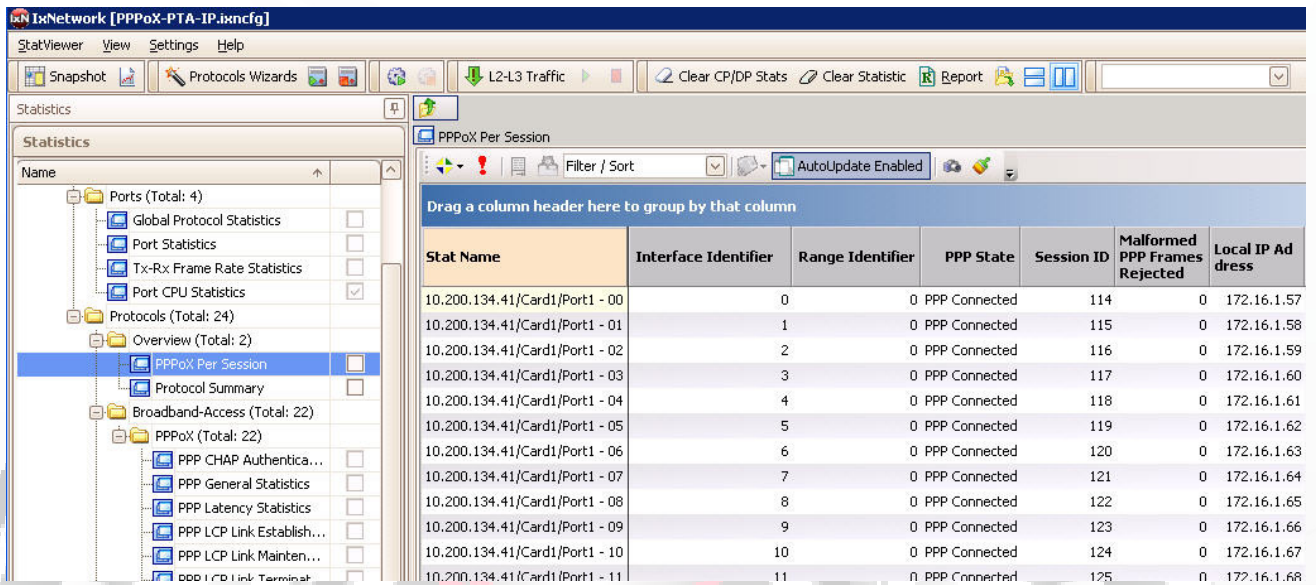
Stat Name	Interface Identifier	Range Identifier	PPP State	PPP Close Mode
10.200.134.41/Card1/Port1 - 00		0	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 01		1	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 02		2	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 03		3	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 04		4	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 05		5	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 06		6	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 07		7	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 08		8	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 09		9	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 10		10	0 PPP Connected	None
10.200.134.41/Card1/Port1 - 11		11	0 PPP Connected	None

- You can customize the statistics that you want appearing in the statistics by clicking on **Filter / Sort** window, and then selecting **Presentation** tab. You can then select the statistics you want to track and also set the order of those statistics.

The screenshot shows the "Filter / Sort" window in IxNetwork. The "Presentation" tab is selected. The window displays a list of statistics to be tracked, including "Interface Identifier", "Range Identifier", "PPP State", "Local IP Address", "Remote IP Address", "IPv6 Prefix Length", "IPv6 Address", "Local IPv6 IID", "Peer IPv6 IID", "MRU", and "MTU". The "Local IP Address" statistic is currently selected. The "Selected Stats" list on the right shows the selected statistics in the order they will be displayed: "PPPoX - Session - Interface Identifier", "PPPoX - Session - Range Identifier", "PPPoX - Session - PPP State", "PPPoX - Session - Session ID", "PPPoX - Session - Malformed PPP Frames Rejec", and "PPPoX - Session - Local IP Address".

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- IxNetwork statistics will get updated to the new view showing just the statistics that the user wants to see.



The screenshot shows the IxNetwork software interface. The left pane displays a tree view of statistics categories, with 'PPPoX Per Session' selected under 'Broadband-Access'. The main pane shows a table of session statistics with the following columns: Stat Name, Interface Identifier, Range Identifier, PPP State, Session ID, Malformed PPP Frames Rejected, and Local IP Address. The table contains 12 rows of data, all showing 'PPP Connected' status.

Stat Name	Interface Identifier	Range Identifier	PPP State	Session ID	Malformed PPP Frames Rejected	Local IP Address
10.200.134.41/Card1/Port1 - 00		0	0 PPP Connected	114	0	172.16.1.57
10.200.134.41/Card1/Port1 - 01		1	0 PPP Connected	115	0	172.16.1.58
10.200.134.41/Card1/Port1 - 02		2	0 PPP Connected	116	0	172.16.1.59
10.200.134.41/Card1/Port1 - 03		3	0 PPP Connected	117	0	172.16.1.60
10.200.134.41/Card1/Port1 - 04		4	0 PPP Connected	118	0	172.16.1.61
10.200.134.41/Card1/Port1 - 05		5	0 PPP Connected	119	0	172.16.1.62
10.200.134.41/Card1/Port1 - 06		6	0 PPP Connected	120	0	172.16.1.63
10.200.134.41/Card1/Port1 - 07		7	0 PPP Connected	121	0	172.16.1.64
10.200.134.41/Card1/Port1 - 08		8	0 PPP Connected	122	0	172.16.1.65
10.200.134.41/Card1/Port1 - 09		9	0 PPP Connected	123	0	172.16.1.66
10.200.134.41/Card1/Port1 - 10		10	0 PPP Connected	124	0	172.16.1.67
10.200.134.41/Card1/Port1 - 11		11	0 PPP Connected	125	0	172.16.1.68

Conclusion:

Per-session statistics coupled with flexible support for detailed statistics provide a potent one-two combination strong enough to render long time spent in debugging broadband test problems to being a relic of the past. With a few clicks of the mouse, the user can save a lot of their testing time and get a better understanding of the performance of their DUT/SUT.

IxNetwork

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