# Changes to Commands and Properties

## Command Changes

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| --- | --- |
| **Command Name** | **Comment** |
| list\_node\_regbus\_layers | This command lists the association between nodes and regbus layer, with all elements (bridges, routers, and agents) associated. |
| reset\_node\_regbus\_layer | This command resets the association between regbus layer and node back to default value. |
| set\_node\_regbus\_layer | This command changes the regbus layer associated to one or more nodes specified in the list. |
| query\_links | This command is used to list the links with certain properties between rtl groups. Note that links with ILDC aren’t listed. |
| enter\_scf\_mode | This command is used to reset the mesh and enter into SCF NocStudio Mode. |
| set\_initial\_e2e\_credits | This command is used to setup credited flows from source to a destination on an interface. |
| set\_credits | This command is used to setup credited flows from a source to a destination where the source is a MeshStop/SBO/TG and the destnation is a MeshStop/SBO/TG/Interface. |
| add\_slots | This command used to add a type of slot with access permissions for deadlock analysis. |
| set\_credit\_return\_layers | This command is to choose layers on which e2e and tg credits are returned |
| add\_ihost | This command is used to creates a 1x1 host with one or two ports for SCF mesh. |
| print\_flits\_in\_noc | This command prints the flits in all the channel buffers of the NoC. |
| set\_emb | This command is used to set rows and/or columns on which EMB will be placed. |
| set\_row\_bridging | This command is used to set the bridging between a pair of rows. |
| set\_col\_bridging | This command is used to set the bridging between a pair of columns. |
| reset\_row\_bridging | This command is used to reset the row bridging specified using set\_row\_bridging |
| reset\_col\_bridging | This command is used to reset the column bridging specified using set\_col\_bridging |
| set\_throttling | This command sets the throttling in specified directions for the routers. |
| set\_polarity | This command sets row and column polarity (even/odd/none) from sources to destinations on a given interface. |
| show\_polarity | This command shows polarities (even/odd/none) between two bridges for a single interface\_id |
| set\_route\_direction | This command sets row injection direction (east/west/shortest) and column injection direction (north/south/shortest) from sources to destinations on a given interface. |
| show\_route\_direction | This command shows route directions (east/west/shortest), (north/south/shortest) between two bridges for a single interface\_id. |
| set\_tg\_node | This command sets the position of the TG to be used for pairs of sources to destinations on a given interface. |
| show\_tg\_node | This command shows positions of TG's that will be used between two bridges for a single interface\_id. |
| set\_two\_flit\_layer | This command sets a layer to support two flit transactions. |
| set\_ads\_slot\_layer | This command sets the layers to contain the specified number of ADS or IR-ADS slots on all row and column rings. |
| set\_packet\_groups | This command sets the layers/message types in a group (group A) to be used in 1x mode in simulation. |
| list\_packet\_groups | This command lists the layers and message types in each packet group. |
| reset\_packet\_groups | This command resets the packet group of each layer/message type to none. |
| set\_two\_beat\_credited\_packets\_layer | This command sets a layer in which two credited packets are sent as a part of the same hop of the transaction but consume only one credit. |

## Default Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| arbitration\_mode | Static | This property is used to control the type of arbitration used for the output port of the bridge/router. |
| compress\_strap\_enable | No | This property when enabled sets the Strap drivevalue ports to local. config\_strap\_id command is used as mux to pass values. |
| tcl\_print\_mode | Warn-only | This property enables printing all warning messages in tcl mode. |
| log\_all\_packets | Yes | This property decides whether to save every packet template for detailed statistics to be computed after simulation. |
| stats\_view\_green\_threshold | 0 | This command is to set the minimum value of throughput/occupancy at which tiles in the stats view are colored green. This threshold must be less than the stats\_view\_orange\_threshold. |
| stats\_view\_orange\_threshold | 60 | This command is to set the minimum value of throughput/occupancy at which tiles in the stats view are colored orange. This threshold must be more than the stats\_view\_green\_threshold and less than the stats\_view\_red\_threshold. |
| stats\_view\_red\_threshold | 100 | This command is to set the minimum value of throughput/occupancy at which tiles in the stats view are colored red. This threshold must be more than the  stats\_view\_orange\_threshold. |
| scf\_deadlock\_analysis\_enable | Yes | This property when set to true, will enable SCF deadlock detection analyzer to detect possible deadlocks during mapping based on the traffic added in SCF NocStudio. |
| emb\_latency | 0 | This property sets the default number of cycles taken by a data or credit message to cross the EMB i.e from SBO ingress on one die to the SBO egress on another die. |
| scf\_stamping\_enable | no | This property when set to true, will enable multi-instacing of SCF CMS modules. |

## Mesh Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| security\_interrupt\_enable | no | This property is used to expose/tie-off a security interrupt signal from all modules. |
| visa\_enable | no | This property hhen set to true, the VISA pins are generated for the mesh stops during gen\_ip. |
| intel\_inst\_enable | no | This property when set to true, the pins guarded by INTEL\_INST\_ON in the RTL are also generated in the wrapper during gen\_ip. |
| last\_leg\_credit\_enable | no |  |
| sbo\_to\_ta\_credit\_enable | yes | This property when false, the source gets credit to TA. Else, the SBO gets credit to TA. |
| two\_flit\_col\_polarity\_mode | even\_odd | This property is used to set the mode of injection of flits into the vertical ring from the host port, based on the polarity. |
| two\_flit\_row\_polarity\_mode | even\_odd | This property is used to set the mode of injection of flits into the horizontal ring from the TG, based on the polarity. |
| global\_back\_pressure\_type | none | This property is used to set the global back pressure mechanism in the NoC. |
| back\_pressure\_threshold | 3 | This property sets the number of messages of space left in buffers to enable global. |
| throttling\_hysterisis | 10 | This property sets the number of cycles for the throttled sender to remain throttled before resuminng at usual rate. |
| sink\_rule\_policy | stripes | This property is used to set the policy used to set the sink rules on all bridges. |
| enable\_fast\_map | yes | When this property is set to true, the mapping speed is increased. |
| throttling\_rate\_factor | 0.5 | This property sets the throttle rate factor for the mesh stop that the injection rate of the throttled mesh stop will be reduced by. |
| enable\_1x\_mode | no | This property enables 1x mode in simulation. |

## Bridge Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| arbitration\_mode | static | This property is used to control the type of arbitration used for the output port of the bridge. |

## Host Property Changes

None

## Interface Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| rate\_limit\_incr\_trigger | no | When a credited packet with this label is sent or received, add a token to the rate limiter for that packet's src/dest. |
| rate\_limit\_decr\_trigger | no | When a credited packet with this label is sent, use a token from the rate  limiter for that packet's dest. |
| drop\_bounce\_buffer\_size | 4 | This property is used to define the DROP port's bounce buffer size. |
| credits\_from\_west\_sbo | 8 | This property is used to set the number of credits available for the west sbo on the same layer as this interface, to send to this interface. |
| credits\_from\_east\_sbo | 8 | This property is used to set the number of credits available for the east sbo on the same layer as this interface, to send to this interface. |
| credits\_from\_tg | 8 | This property is used to set the number of credits available for the  Transgress buffer on the same layer as this interface, to send to this interface. |

## Link Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| emb\_data\_latency | 0 | This property sets the number of cycles taken by a data message to cross the EMB i.e from SBO ingress on one die to the SBO egress on another die. |
| emb\_credit\_latency | 0 | This property sets the number of cycles taken by a credit message to cross the EMB i.e from SBO ingress on one die to the SBO egress on another die. |

## Router Property Changes

|  |  |  |
| --- | --- | --- |
| **Property Name** | **Default Value** | **Comment** |
| arbitration\_mode | static | This property is used to control the type of arbitration used for the output port of the router. |
| tg\_ingress\_bounce\_buffer\_size | 8 | This property is used to define the bounce input buffer size in the Transgress buffer. |
| tg\_ingress\_credit\_buffer\_size | 8 | This property defines the credit input buffer size in the Transgress buffer. |
| tg\_egress\_bounce\_buffer\_size | 8 | This property is used to define the egress bounce buffer size in the Transgress buffer. |
| tg\_egress\_credit\_buffer\_size | 8 | This property is used to define the egress credit buffer size in the Transgress buffer. |
| add\_blocked\_cycles\_until\_reserve | n/a | This property is to set the number of add blocked cycles before reserving a slot. |
| tg\_blocked\_cycles\_until\_reserve | n/a | This property sets the number of tg blocked cycles before reserving a slot. |
| credits\_from\_sbo | n/a | This property sets the number of credits from SBO in column of <n> to TG at the given position for the specified traffic class. |
| credits\_to\_sbo | n/a | This property sets the number of credits from the TG to the SBO on its horizontal ring. |
| credits\_to\_other\_sbo | 8 | This property sets the number of credits from the current SBO to the other SBO. |
| sbo\_ingress\_bounce\_buffer\_size | 8 | This property sets the bounce buffer size of the ingress buffer on the SBO. |
| sbo\_ingress\_credit\_buffer\_size | 8 | This property sets the credit buffer size of the ingress buffer on the SBO. |
| sbo\_egress\_bounce\_buffer\_size | 8 | This property sets the bounce buffer size of the egress buffer on the SBO. |
| sbo\_egress\_credit\_buffer\_size | 8 | This property sets the credit buffer size of the egress buffer on the SBO. |
| turn\_agent\_bounce\_buffer\_size | 4 | This property sets the turn agent bounce buffer size on the router. |
| turn\_agent\_latency | 4 | This property sets the turn agent latency on the router. |
| throttling\_threshold | 512 | This property sets the throttling threshold for the router, which is the number of cycles that the mesh stop is unable to send packets from bridges connected to it, after which the throttling signal is sent. |
| port\_credits\_to\_tg | 8 |  |
| port\_credits\_to\_sbo | 8 |  |
| sink\_rule | n/a | This property is used to set the sink rule for the rx interface. |

## VC Property Changes

None

## CSB Storage Property Changes

None