

Figure 1: pegasus_v_chimera_uc.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell

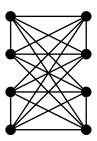


Figure 2: pegasus_v_chimera_uc_k44.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell



Figure 3: all_to_aux.tikz

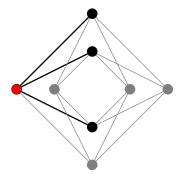


Figure 4: all_to_aux_chimera.tikz

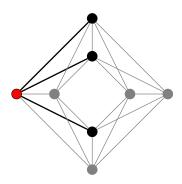


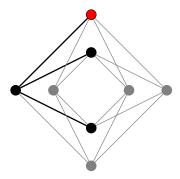
Figure 5: all_to_aux_pegasus.tikz

Gadgets with adjacency graph corresponding to all_to_aux.tikz ($\fill \land \fill \$):

- NTR-KZFD
- NTR-ABCG



Figure 6: logical_fork.tikz



 $Figure~7:~logical_fork_chimera.tikz$

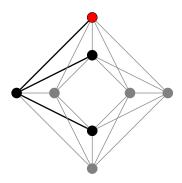


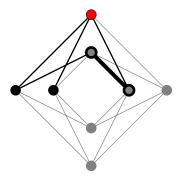
Figure 8: logical_fork_pegasus.tikz

Gadgets with adjacency graph corresponding to logical_fork.tikz($\stackrel{\textstyle \downarrow}{\swarrow}$):

• NTR-ABCB



Figure 9: k4_missing_2edge.tikz



 $Figure~10:~k4_missing_2edge_chimera.tikz$

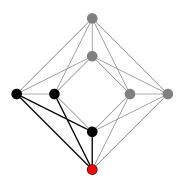


Figure 11: k4_missing_2edge_pegasus.tikz

Gadgets with adjacency graph corresponding to k4_missing_2edge.tikz($\buildrel \buildrel \build$

• Asymmetric reduction



Figure 12: k4_missing_edge.tikz

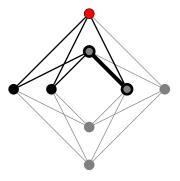


Figure 13: k4_missing_edge_chimera.tikz

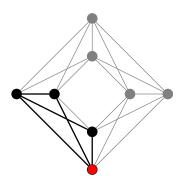


Figure 14: k4_missing_edge_pegasus.tikz

Gadgets with adjacency graph corresponding to k4_missing_edge.tikz(\triangle):

ullet Asymmetric cubic reduction



Figure 15: k4.tikz

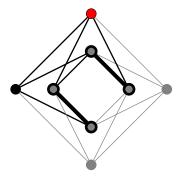


Figure 16: k4_chimera.tikz

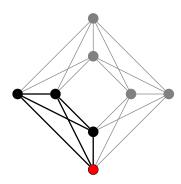


Figure 17: k4_pegasus.tikz

- PTR-Ishikawa
- PTR-BCR (1-4)
- PTR-KZ
- $\bullet~\rm Z~version~of~PTR\text{-}KZ$



Figure 18: k5_missing_edge.tikz

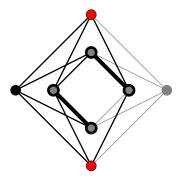


Figure 19: k5_missing_edge_chimera.tikz

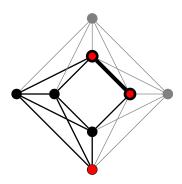


Figure 20: k5_missing_edge_pegasus.tikz

Gadgets with adjacency graph corresponding to k5_missing_edge.tikz ($\mbox{\ensuremath{\not \boxtimes}}\xspace):$

• SFR-BCR-1

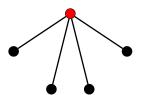


Figure 21: all_to_aux4.tikz

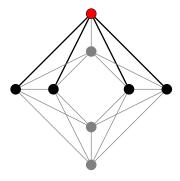


Figure 22: all_to_aux4_inPegasus.tikz

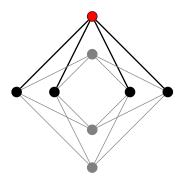


Figure 23: all_to_aux4_inChimera.tikz

Gadgets with adjacency graph corresponding to all_to_aux4.tikz():

• NTR-KZFD



Figure 24: logical_fork3.tikz

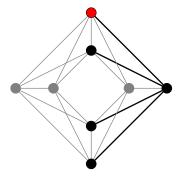


Figure 25: logical_fork3_inPegasus.tikz

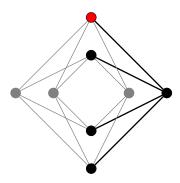


Figure 26: logical_fork3_inChimera.tikz

Gadgets with adjacency graph corresponding to logical_fork3.tikz($\stackrel{\longleftarrow}{\swarrow}$):

• NTR-ABCB

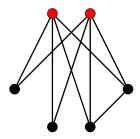


Figure 27: $2aux_to_all_{1conn.tikz}$

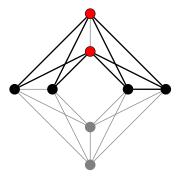


Figure 28: 2aux_to_all4_1conn_inPegasus.tikz

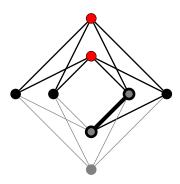


Figure 29: 2aux_to_all4_1conn_inChimera.tikz

Gadgets with adjacency graph corresponding to 2aux_to_all4_1conn.tikz(



ullet positive term reduction

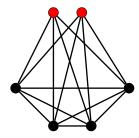


Figure 30: $2aux_to_all4_allConn.tikz$

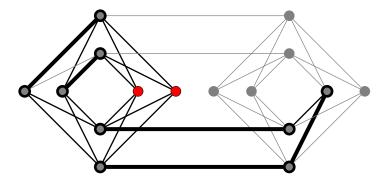


Figure 31: $2aux_to_all4_allConn_inChimera.tikz$

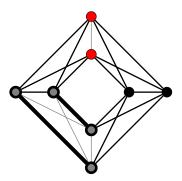


Figure 32: 2aux_to_all4_allConn_inPegasus.tikz

Gadgets with adjacency graph corresponding to 2aux_to_all4_allConn.tikz(



• PTR-Ishikawa

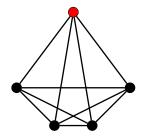
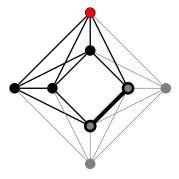


Figure 33: $aux_to_all_allConn.tikz$



 $Figure~34:~aux_to_all4_allConn_inPegasus.tikz$

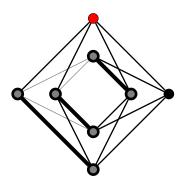


Figure 35: aux_to_all4_allConn_inChimera.tikz

Gadgets with adjacency graph corresponding to aux_to_all4_allConn.tikz(



- PTR-BCR-2
- \bullet PTR-BCR-4

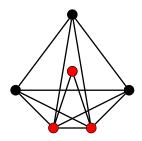
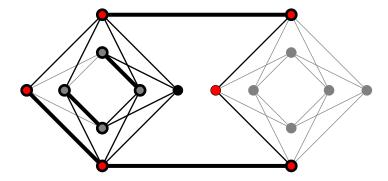
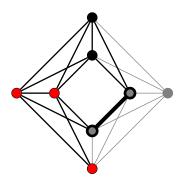


Figure 36: aux_to_all4_allConn_extra_qb.tikz



 $Figure~37:~aux_to_all4_allConn_inChimera_extra_qb.tikz$

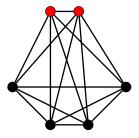


 $Figure~38:~aux_to_all4_allConn_inPegasus_extra_qb.tikz$

Gadgets with adjacency graph corresponding to aux_to_all4_allConn_extra_qb.tikz(



• RBL (even)



 $Figure~39:~2auxConn_to_all4_allConn.tikz$

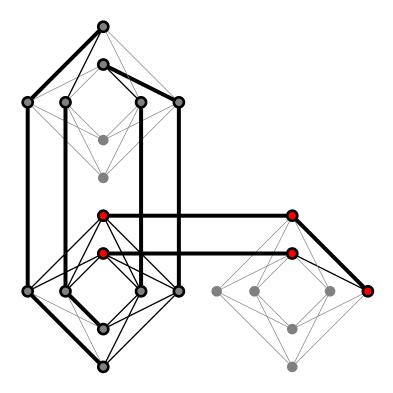


Figure 40: $2auxConn_to_all4_allConn_inChimera.tikz$

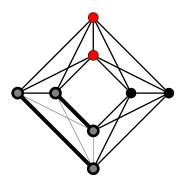


Figure 41: 2auxConn_to_all4_allConn_inPegasus.tikz

 $Gadgets\ with\ adjacency\ graph\ corresponding\ to\ 2auxConn_to_all4_allConn.tikz(\ref{thm:conn})$



• PTR-BCR-3

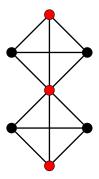


Figure 42: 2k4_shared_aux.tikz

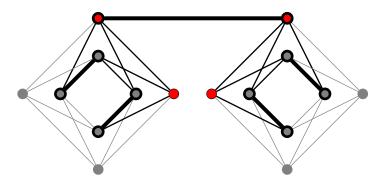


Figure 43: $2k4_shared_aux_inChimera.tikz$

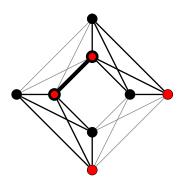


Figure 44: $2k4_shared_aux_inPegasus.tikz$

Gadgets with adjacency graph corresponding to 2k4_shared_aux.tikz(\(\frac{1}{2}\)):

• Two copies of PTR-KZ sharing an auxilla

 $\bullet\,$ Two copies of z-version of PTR-KZ sharing an auxilla