

Figure 1: pegasus\_v\_chimera\_uc.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell

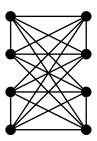


Figure 2: pegasus\_v\_chimera\_uc\_k44.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell



Figure 3:  $all_{to}aux.tikz$ 

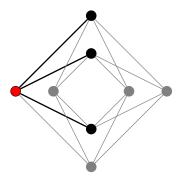


Figure 4: all\_to\_aux\_chimera.tikz

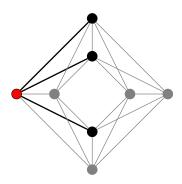


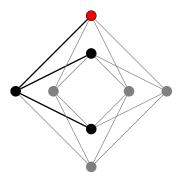
Figure 5: all\_to\_aux\_pegasus.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux.tikz ( $\fill \ensuremath{ \bigwedge} \ensuremath{)}$  :

- NTR-KZFD
- NTR-ABCG



Figure 6: logical\_fork.tikz



 $Figure~7:~logical\_fork\_chimera.tikz$ 

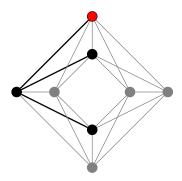


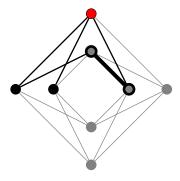
Figure 8: logical\_fork\_pegasus.tikz

Gadgets with adjacency graph corresponding to logical\_fork.tikz (  $\begin{cal} \clip{cal} \end{cal}$  ):

• NTR-ABCB



Figure 9: k4\_missing\_2edge.tikz



 $Figure~10:~k4\_missing\_2edge\_chimera.tikz$ 

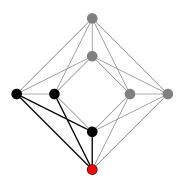


Figure 11: k4\_missing\_2edge\_pegasus.tikz

Gadgets with adjacency graph corresponding to k4\_missing\_2edge.tikz ( $\buildrel \buildrel \buil$ 

• Asymmetric reduction



Figure 12: k4\_missing\_edge.tikz

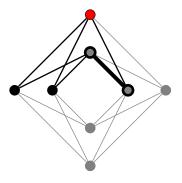


Figure 13: k4\_missing\_edge\_chimera.tikz

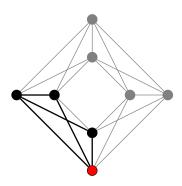


Figure 14: k4\_missing\_edge\_pegasus.tikz

Gadgets with adjacency graph corresponding to k4\_missing\_edge.tikz ( $\swarrow$  ):

ullet Asymmetric cubic reduction



Figure 15: k4.tikz

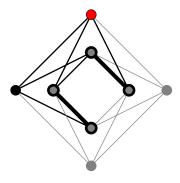


Figure 16: k4\_chimera.tikz

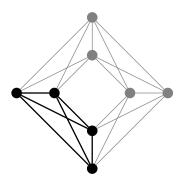


Figure 17: k4\_pegasus.tikz

Gadgets with adjacency graph corresponding to k4.tikz ( $\buildrel \Delta$  ):

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

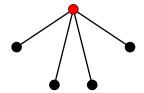


Figure 18: all\_to\_aux4.tikz

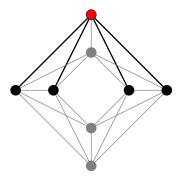


Figure 19: all\_to\_aux4\_inPegasus.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux4.tikz( \ \ \ \ \ \ \ \ ):

# • NTR-KZFD

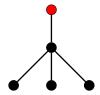


Figure 20: logical\_fork3.tikz

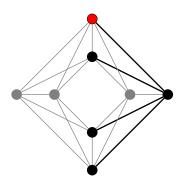


Figure 21: logical\_fork3\_inPegasus.tikz

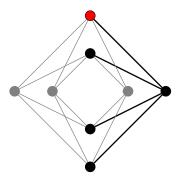


Figure 22: logical\_fork3\_inChimera.tikz

Gadgets with adjacency graph corresponding to logical\_fork3.tikz(  $\nearrow$  ):

# • NTR-ABCB

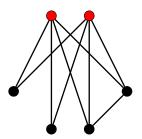


Figure 23:  $2aux_to_all_{1conn.tikz}$ 

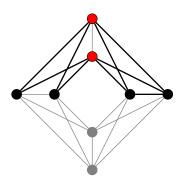


Figure 24: 2aux\_to\_all4\_1conn\_inPegasus.tikz

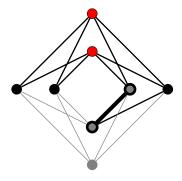


Figure 25: 2aux\_to\_all4\_1conn\_inChimera.tikz

Gadgets with adjacency graph corresponding to 2aux\_to\_all4\_1conn.tikz(



• positive term reduction

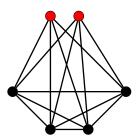


Figure 26:  $2aux\_to\_all4\_allConn.tikz$ 

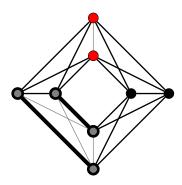


Figure 27:  $2aux\_to\_all4\_allConn\_inPegasus.tikz$ 

Gadgets with adjacency graph corresponding to  $2aux\_to\_all4\_allConn.tikz($ 



## • PTR-Ishikawa

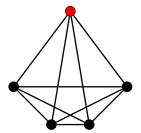


Figure 28: aux\_to\_all4\_allConn.tikz

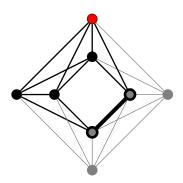


Figure 29: aux\_to\_all4\_allConn\_inPegasus.tikz

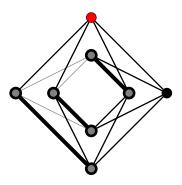


Figure 30: aux\_to\_all4\_allConn\_inChimera.tikz

Gadgets with adjacency graph corresponding to aux\_to\_all4\_allConn.tikz( >> ):



# • PTR-BCR-2

# • PTR-BCR-4

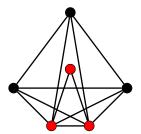


Figure 31: aux\_to\_all4\_allConn\_extra\_qb.tikz

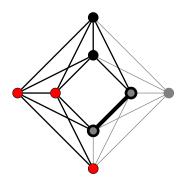


Figure 32:  $aux_to_all4_allConn_inPegasus_extra_qb.tikz$ 



• RBL (even)

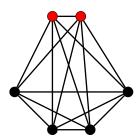


Figure 33:  $2auxConn_to_all4_allConn.tikz$ 

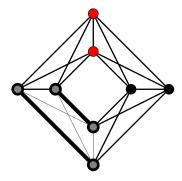


Figure 34: 2auxConn\_to\_all4\_allConn\_inPegasus.tikz

Gadgets with adjacency graph corresponding to 2auxConn\_to\_all4\_allConn.tikz(



# • PTR-BCR-3

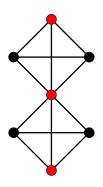


Figure 35:  $2k4\_shared\_aux.tikz$ 

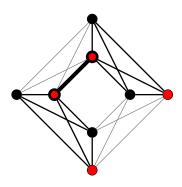


Figure 36:  $2k4\_shared\_aux\_inPegasus.tikz$ 

Gadgets with adjacency graph corresponding to 2k4\_shared\_aux.tikz(\*\*):

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