

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

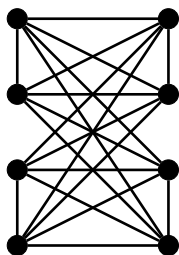


Figure 2: pegasus\_v\_chimera\_uc\_k44.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell

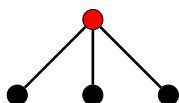


Figure 3: all\_to\_aux.tikz

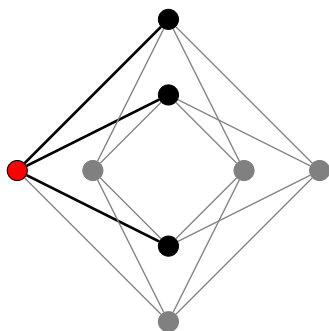


Figure 4: all\_to\_aux\_chimera.tikz

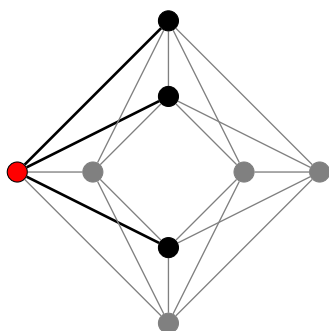


Figure 5: all\_to\_aux\_pegasus.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux.tikz( $\bullet \nearrow \bullet \nwarrow \bullet$ ):

- NTR-KZFD
- NTR-ABCG

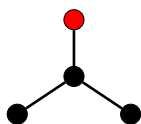


Figure 6: logical\_fork.tikz

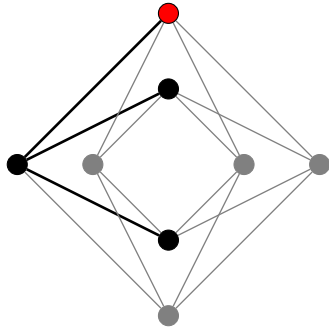


Figure 7: logical\_fork\_chimera.tikz

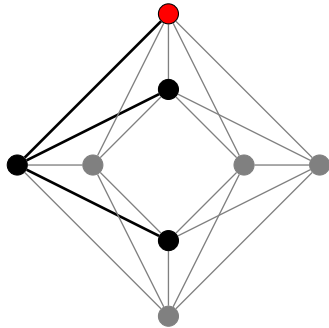


Figure 8: logical\_fork\_pegasus.tikz

Gadgets with adjacency graph corresponding to logical\_fork.tikz(

- NTR-ABCB

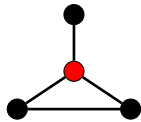


Figure 9: k4\_missing\_2edge.tikz

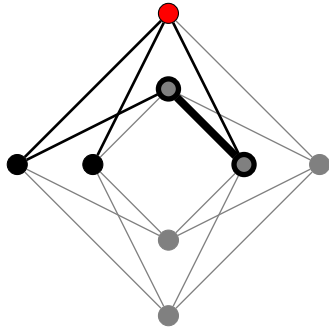


Figure 10: k4\_missing\_2edge\_chimera.tikz

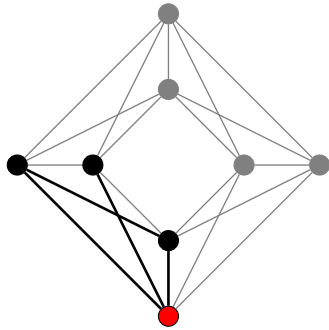


Figure 11: k4\_missing\_2edge\_pegasus.tikz

Gadgets with adjacency graph corresponding to k4\_missing\_2edge.tikz():

- Asymmetric reduction

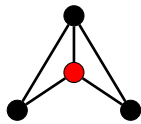


Figure 12: k4\_missing\_edge.tikz

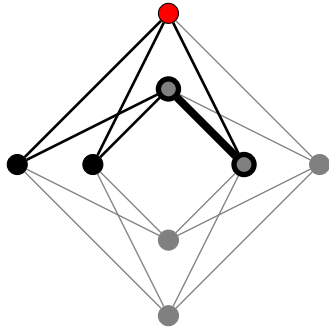


Figure 13: k4\_missing\_edge\_chimera.tikz

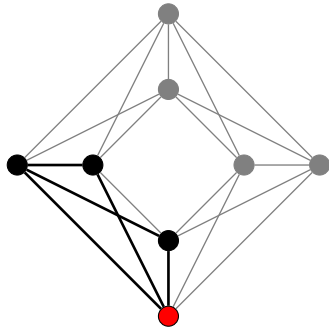


Figure 14: k4\_missing\_edge\_pegasus.tikz

Gadgets with adjacency graph corresponding to  $k4\_missing\_edge.tikz(\text{red node})$ :

- Asymmetric cubic reduction

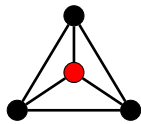


Figure 15: k4.tikz

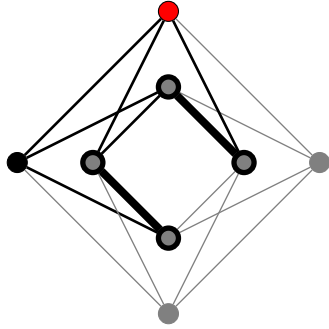


Figure 16: k4\_chimera.tikz

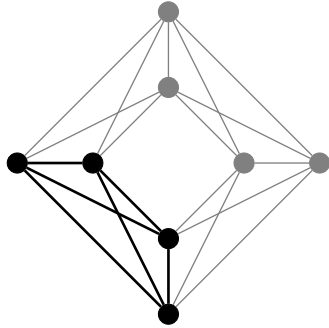


Figure 17: k4\_pegasus.tikz

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

- PTR-Ishikawa
- PTR-BCR (1-4)
- PTR-KZ
- Z version of PTR-KZ

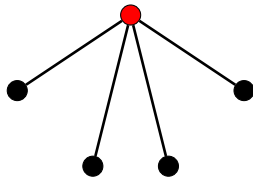


Figure 18: all\_to\_aux4.tikz

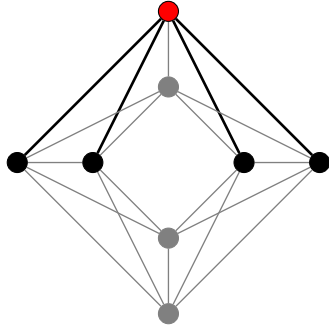


Figure 19: all\_to\_aux4.inPegasus.tikz

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

- NTR-KZFD

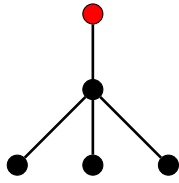


Figure 20: logical\_fork3.tikz

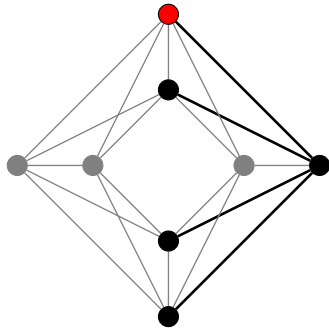


Figure 21: logical\_fork3.inPegasus.tikz

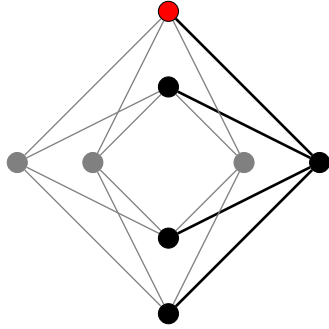


Figure 22: logical\_fork3\_inChimera.tikz

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

- NTR-ABCB

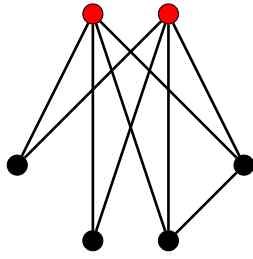


Figure 23: 2aux\_to\_all4\_1conn.tikz

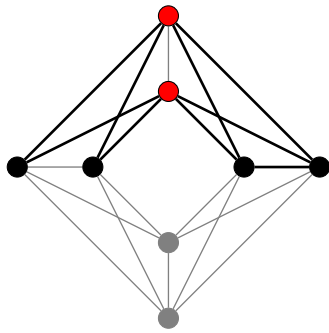


Figure 24: 2aux\_to\_all4\_1conn\_inPegasus.tikz



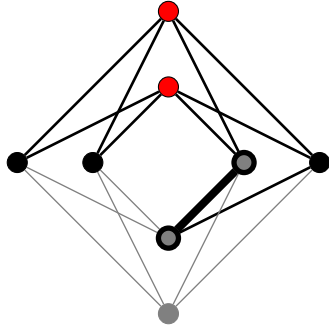



Figure 25: 2aux\_to\_all4\_1conn.inChimera.tikz

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

- positive term reduction

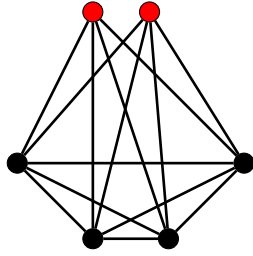


Figure 26: 2aux\_to\_all4\_allConn.tikz

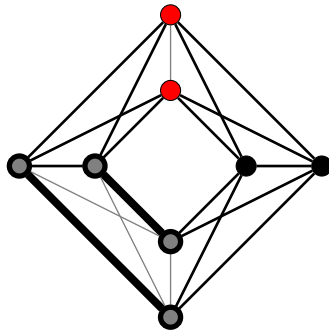


Figure 27: 2aux\_to\_all4\_allConn.inPegasus.tikz

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

- PTR-Ishikawa

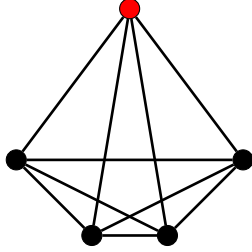


Figure 28: aux\_to\_all4\_allConn.tikz

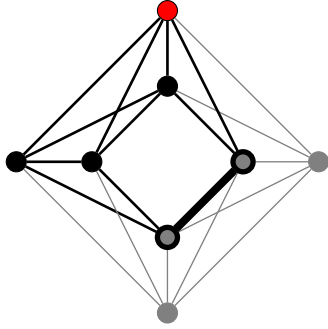


Figure 29: aux\_to\_all4\_allConn.inPegasus.tikz

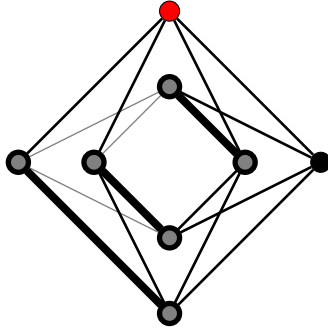



Figure 30: aux\_to\_all4\_allConn.inChimera.tikz

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

- PTR-BCR-2

- PTR-BCR-4

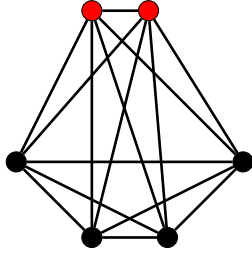


Figure 31: 2auxConn\_to\_all4\_allConn.tikz

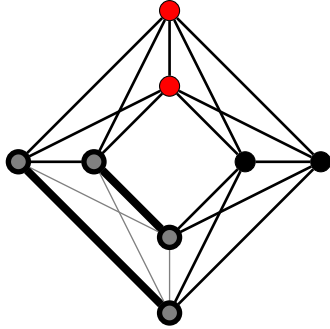



Figure 32: 2auxConn\_to\_all4\_allConn\_inPegasus.tikz

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

- PTR-BCR-3

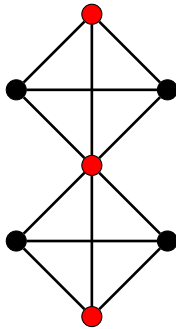


Figure 33: 2k4\_shared\_aux.tikz

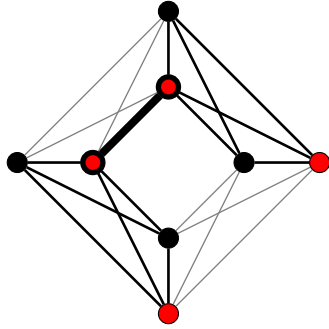


Figure 34: 2k4.shared\_aux.inPegasus.tikz

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

- Two copies of PTR-KZ sharing an auxilla
- Two copies of z-version of PTR-KZ sharing an auxilla