

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

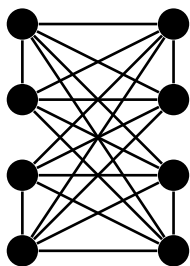


Figure 2: pegasus\_v\_chimera\_uc\_k44.tikz: shows extra edges added to chimera unit cell to make Pegasus unit cell

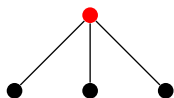


Figure 3: all\_to\_aux.tikz

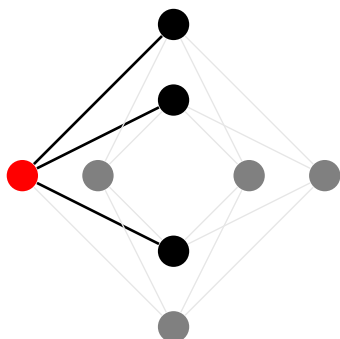


Figure 4: all\_to\_aux\_chimera.tikz

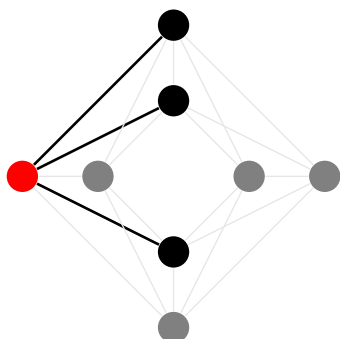


Figure 5: all\_to\_aux\_pegasus.tikz

Gadgets with adjacency graph corresponding to all\_to\_aux.tikz( $\checkmark$   $\uparrow$   $\searrow$ ):

- NTR-KZFD
- NTR-ABCG

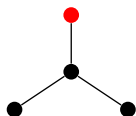


Figure 6: logical\_fork.tikz

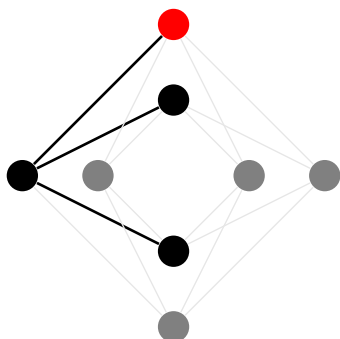


Figure 7: logical\_fork\_chimera.tikz

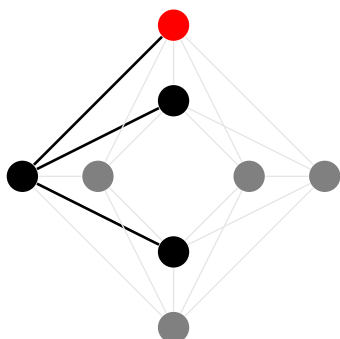


Figure 8: logical\_fork\_pegasus.tikz

Gadgets with adjacency graph corresponding to `logical_fork.tikz`():

- NTR-ABCB

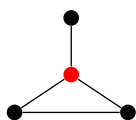


Figure 9: k4\_missing\_2edge.tikz

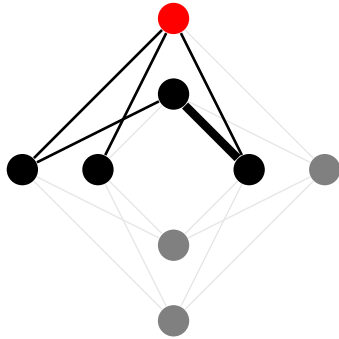


Figure 10: k4\_missing\_2edge\_chimera.tikz

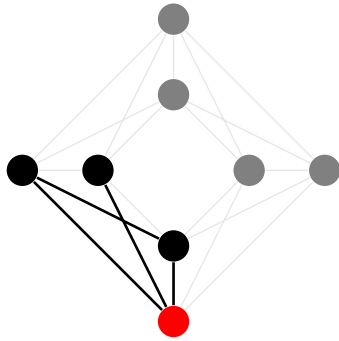


Figure 11: k4\_missing\_2edge\_pegasus.tikz

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

- Asymmetric reduction

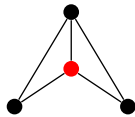


Figure 12: k4\_missing\_edge.tikz

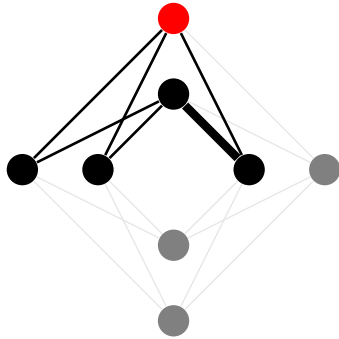


Figure 13: k4\_missing\_edge\_chimera.tikz

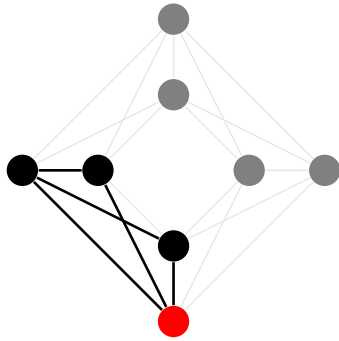


Figure 14: k4\_missing\_edge\_pegasus.tikz

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

- Asymmetric cubic reduction

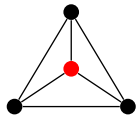


Figure 15: k4.tikz

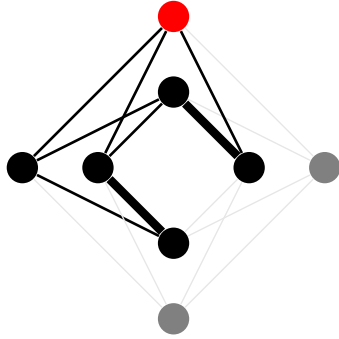


Figure 16: k4\_chimera.tikz

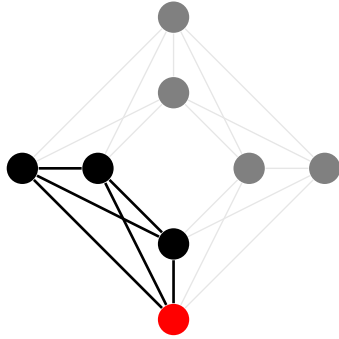


Figure 17: k4\_pegasus.tikz

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

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

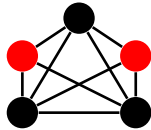


Figure 18: k5\_missing\_edge.tikz

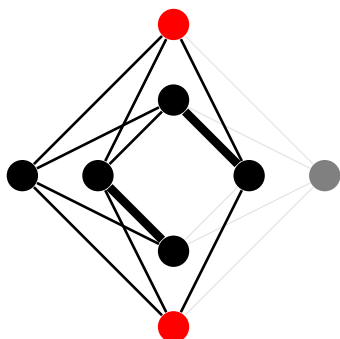


Figure 19: k5\_missing\_edge\_chimera.tikz

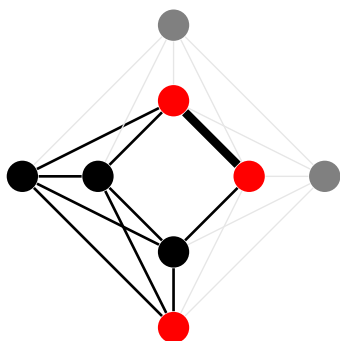


Figure 20: k5\_missing\_edge\_pegasus.tikz

Gadgets with adjacency graph corresponding to k5\_missing\_edge.tikz():

- SFR-BCR-1

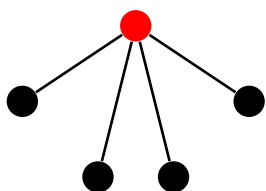


Figure 21: all\_to\_aux4.tikz

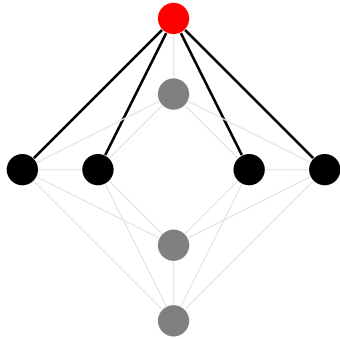


Figure 22: all\_to\_aux4\_inPegasus.tikz

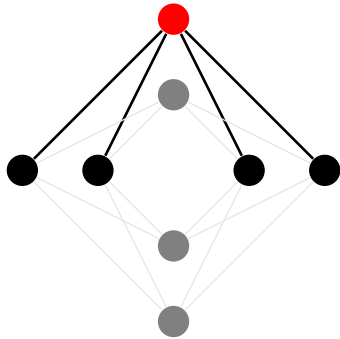



Figure 23: all\_to\_aux4\_inChimera.tikz

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

- NTR-KZFD

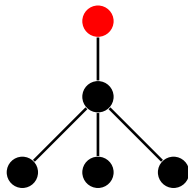


Figure 24: logical\_fork3.tikz



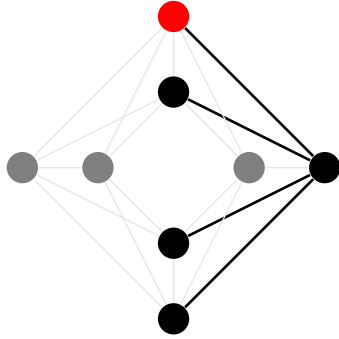


Figure 25: logical\_fork3\_inPegasus.tikz

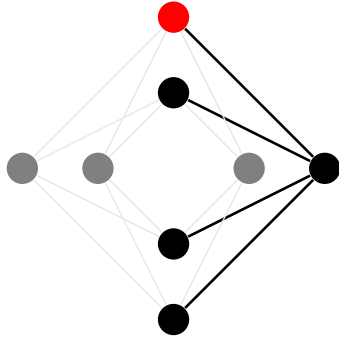


Figure 26: logical\_fork3\_inChimera.tikz

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

- NTR-ABCB

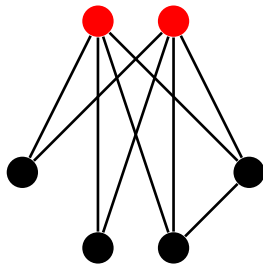


Figure 27: 2aux\_to\_all4\_1conn.tikz

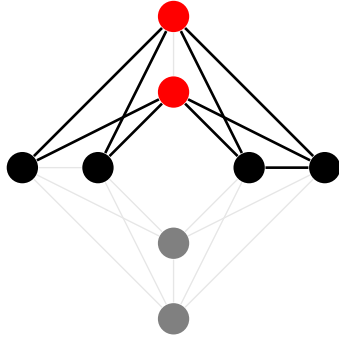


Figure 28: 2aux\_to\_all4\_1conn.inPegasus.tikz

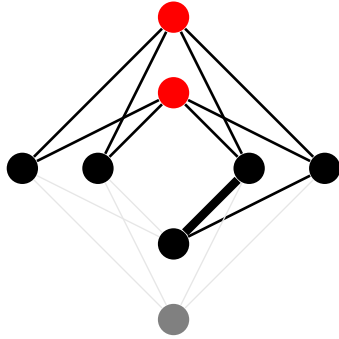


Figure 29: 2aux\_to\_all4\_1conn.inChimera.tikz

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

- positive term reduction

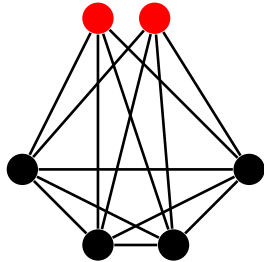


Figure 30: 2aux\_to\_all4\_allConn.tikz

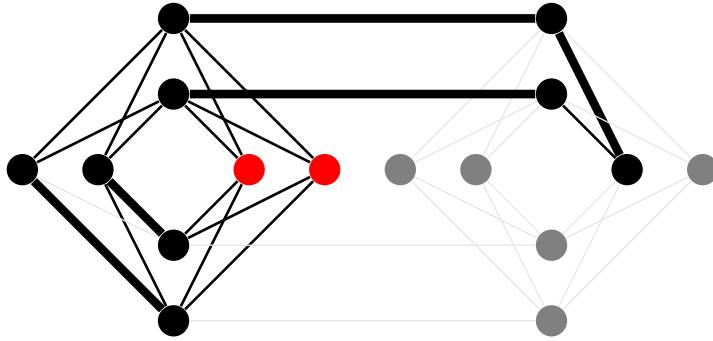


Figure 31: 2aux\_to\_all4\_allConn.inChimera.tikz

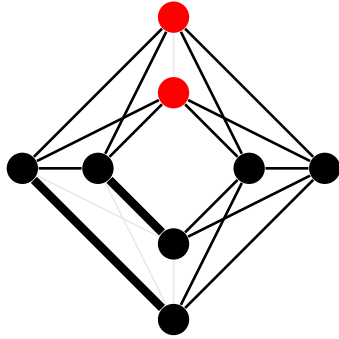



Figure 32: 2aux\_to\_all4\_allConn.inPegasus.tikz

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

- PTR-Ishikawa

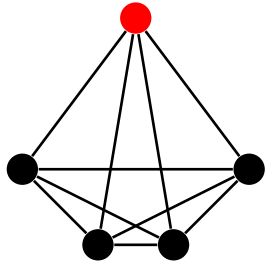


Figure 33: aux\_to\_all4\_allConn.tikz

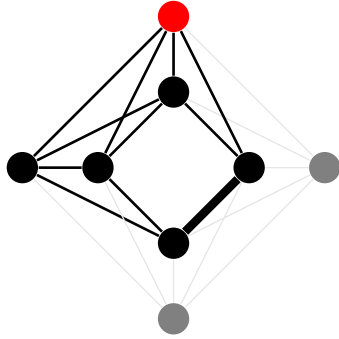


Figure 34: aux\_to\_all4\_allConn\_inPegasus.tikz

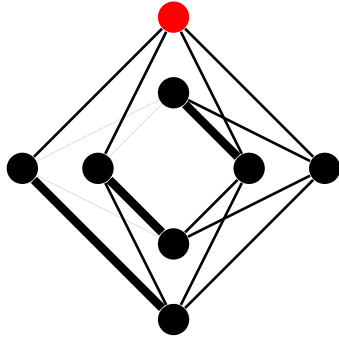


Figure 35: aux\_to\_all4\_allConn\_inChimera.tikz

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

- PTR-BCR-2
- PTR-BCR-4

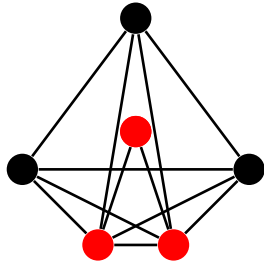


Figure 36: aux\_to\_all4\_allConn\_extra\_qb.tikz

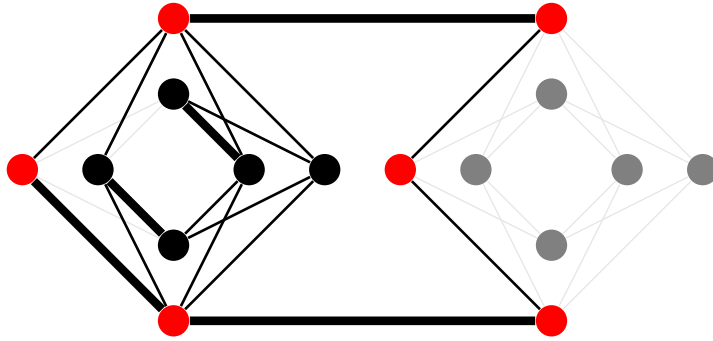


Figure 37: aux\_to\_all4\_allConn\_inChimera\_extra\_qb.tikz

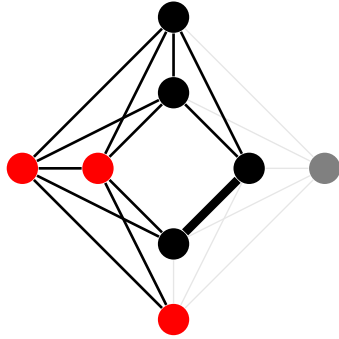



Figure 38: aux\_to\_all4\_allConn\_inPegasus\_extra\_qb.tikz

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

- RBL (even)

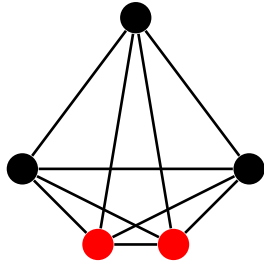


Figure 39: 2aux\_to\_3.tikz

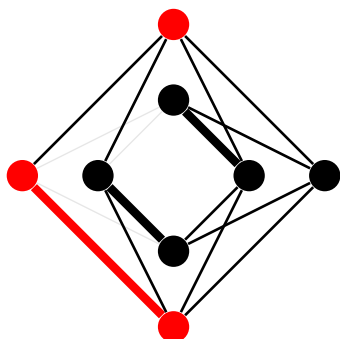


Figure 40: 2aux\_to\_3.inChimera.tikz

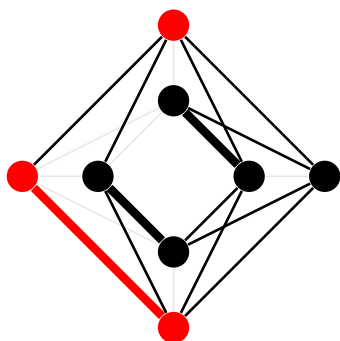



Figure 41: 2aux\_to\_3.inPegasus.tikz

Gadgets with adjacency graph corresponding to 2aux\_to\_3.tikz():

- RBL (even)

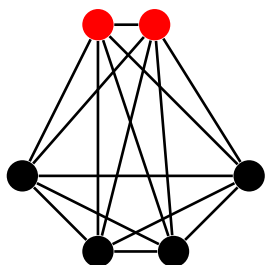


Figure 42: 2auxConn\_to\_all4\_allConn.tikz

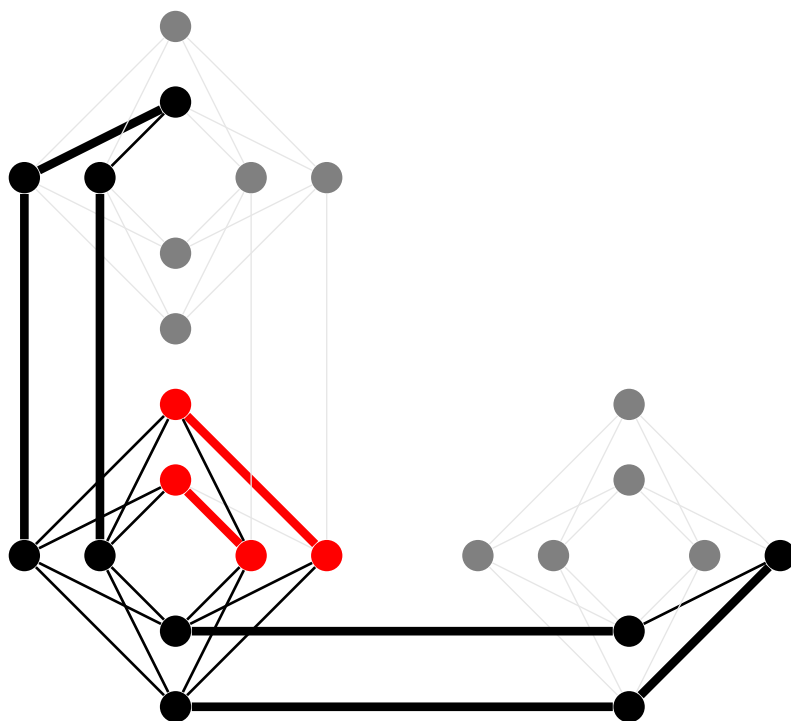


Figure 43: 2auxConn\_to\_all4\_allConn.inChimera.tikz

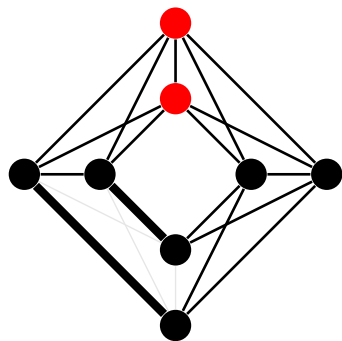


Figure 44: 2auxConn\_to\_all4\_allConn.inPegasus.tikz

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

- PTR-BCR-3

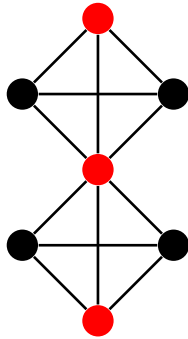


Figure 45: 2k4\_shared\_aux.tikz

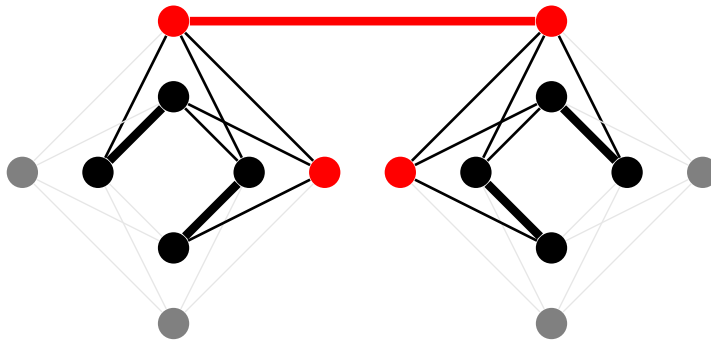


Figure 46: 2k4\_shared\_aux\_inChimera.tikz

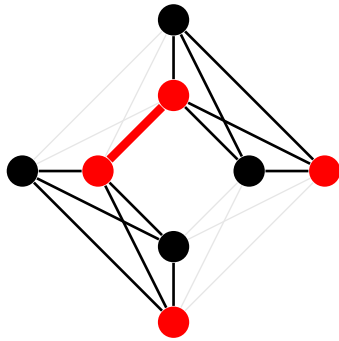


Figure 47: 2k4\_shared\_aux\_inPegasus.tikz

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