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Using license file C:\gurobi912\gurobi.lic

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\1.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\1.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x9ee9528c

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [1e-04, 3e+03]

Presolve removed 59858 rows and 41590 columns

Presolve time: 1.00s

Presolved: 89064 rows, 72290 columns, 248681 nonzeros

Variable types: 51154 continuous, 21136 integer (21136 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 2.005254e+07, 39154 iterations, 1.82 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 2.0053e+07 0 6765 - 2.0053e+07 - - 8s

0 0 2.0331e+07 0 6171 - 2.0331e+07 - - 17s

0 0 2.1060e+07 0 5101 - 2.1060e+07 - - 30s

0 0 2.1339e+07 0 5135 - 2.1339e+07 - - 34s

0 0 2.1389e+07 0 5448 - 2.1389e+07 - - 38s

0 0 2.1390e+07 0 5315 - 2.1390e+07 - - 38s

0 0 2.1390e+07 0 5319 - 2.1390e+07 - - 39s

0 0 2.1660e+07 0 5548 - 2.1660e+07 - - 41s

0 0 2.1848e+07 0 4834 - 2.1848e+07 - - 45s

0 0 2.1873e+07 0 5100 - 2.1873e+07 - - 47s

0 0 2.1875e+07 0 5275 - 2.1875e+07 - - 47s

0 0 2.1875e+07 0 5284 - 2.1875e+07 - - 48s

0 0 2.1922e+07 0 4851 - 2.1922e+07 - - 54s

0 0 2.1929e+07 0 4987 - 2.1929e+07 - - 56s

0 0 2.1929e+07 0 5141 - 2.1929e+07 - - 57s

0 0 2.1941e+07 0 4988 - 2.1941e+07 - - 62s

0 0 2.1943e+07 0 5116 - 2.1943e+07 - - 64s

0 0 2.1943e+07 0 5140 - 2.1943e+07 - - 65s

0 0 2.1946e+07 0 5182 - 2.1946e+07 - - 66s

0 0 2.1946e+07 0 5173 - 2.1946e+07 - - 68s

0 2 2.1946e+07 0 5173 - 2.1946e+07 - - 77s

154 169 2.1962e+07 36 5113 - 2.1946e+07 - 27.6 80s

407 424 2.1985e+07 98 5005 - 2.1946e+07 - 15.1 85s

609 648 2.2002e+07 147 4874 - 2.1946e+07 - 13.1 90s

890 936 2.2015e+07 208 4762 - 2.1946e+07 - 11.8 95s

1075 1116 2.2020e+07 245 4753 - 2.1946e+07 - 10.6 100s

1344 1405 2.2031e+07 311 4656 - 2.1946e+07 - 9.7 105s

1549 1593 2.2040e+07 356 4611 - 2.1946e+07 - 9.6 110s

1821 1923 2.2054e+07 416 4494 - 2.1946e+07 - 9.3 116s

2081 2192 2.2067e+07 475 4413 - 2.1946e+07 - 9.2 121s

2296 2391 2.2080e+07 527 4309 - 2.1946e+07 - 9.1 125s

2575 2668 2.2091e+07 591 4216 - 2.1946e+07 - 9.0 131s

2785 2910 2.2101e+07 642 4163 - 2.1946e+07 - 8.9 136s

3016 3163 2.2111e+07 696 4090 - 2.1946e+07 - 8.7 141s

3314 3437 2.2116e+07 763 3922 - 2.1946e+07 - 8.3 146s

3436 3646 2.2118e+07 790 3870 - 2.1946e+07 - 8.2 150s

3861 4038 2.2122e+07 895 3585 - 2.1946e+07 - 7.8 157s

4037 4286 2.2124e+07 935 3473 - 2.1946e+07 - 7.8 160s

4577 4769 2.2136e+07 1067 3132 - 2.1946e+07 - 7.6 168s

4768 4965 2.2140e+07 1102 3071 - 2.1946e+07 - 7.5 171s

4964 5152 2.2143e+07 1142 2995 - 2.1946e+07 - 7.5 175s

5154 5154 2.2060e+07 443 6525 - 2.1946e+07 - 7.5 204s

5155 5155 2.2126e+07 985 6548 - 2.1946e+07 - 7.5 229s

5156 5156 2.2103e+07 642 5407 - 2.1946e+07 - 7.5 247s

5157 5156 2.2091e+07 592 4646 - 2.1946e+07 - 7.5 252s

5158 5157 2.2121e+07 863 4003 - 2.1946e+07 - 7.5 255s

5160 5158 2.2142e+07 1136 4831 - 2.1956e+07 - 7.5 262s

5162 5160 2.2144e+07 1141 4954 - 2.1957e+07 - 7.5 265s

5164 5161 2.2019e+07 242 4962 - 2.1957e+07 - 7.5 270s

5165 5162 2.2079e+07 510 4942 - 2.1992e+07 - 7.5 283s

5167 5163 2.2121e+07 876 5141 - 2.2003e+07 - 7.5 285s

H 5168 4905 2.315150e+07 2.2004e+07 4.96% 7.5 287s

Cutting planes:

Learned: 474

Gomory: 350

Cover: 27

Implied bound: 1743

MIR: 4552

Flow cover: 9542

RLT: 1528

Relax-and-lift: 314

Explored 5168 nodes (234663 simplex iterations) in 287.73 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 2.31515e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 2.315149939704e+07, best bound 2.200358897274e+07, gap 4.9583%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\1.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 250.5336741115573 : 3000.0

2 : None : 0.0911632769617252 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 250.5336741115573 : 3000.0

2 : None : 0.0911632769617252 : 0.1

Terminado - Guardado de gráficos

simulacion 1 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\2.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\2.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x6104845c

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [1e-04, 3e+03]

Presolve removed 59942 rows and 41853 columns

Presolve time: 0.94s

Presolved: 88980 rows, 72027 columns, 248334 nonzeros

Variable types: 50867 continuous, 21160 integer (21160 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.839613e+07, 37391 iterations, 1.78 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.8396e+07 0 6296 - 1.8396e+07 - - 8s

0 0 1.8722e+07 0 5635 - 1.8722e+07 - - 20s

0 0 1.9335e+07 0 4858 - 1.9335e+07 - - 33s

0 0 1.9582e+07 0 4693 - 1.9582e+07 - - 35s

0 0 1.9617e+07 0 4933 - 1.9617e+07 - - 37s

0 0 1.9619e+07 0 4904 - 1.9619e+07 - - 37s

0 0 1.9619e+07 0 4903 - 1.9619e+07 - - 37s

0 0 1.9875e+07 0 5015 - 1.9875e+07 - - 40s

0 0 2.0015e+07 0 4483 - 2.0015e+07 - - 41s

0 0 2.0029e+07 0 4773 - 2.0029e+07 - - 43s

0 0 2.0030e+07 0 4931 - 2.0030e+07 - - 44s

0 0 2.0030e+07 0 4957 - 2.0030e+07 - - 44s

0 0 2.0074e+07 0 4477 - 2.0074e+07 - - 50s

0 0 2.0082e+07 0 4567 - 2.0082e+07 - - 52s

0 0 2.0083e+07 0 4676 - 2.0083e+07 - - 52s

0 0 2.0097e+07 0 4595 - 2.0097e+07 - - 57s

0 0 2.0099e+07 0 4725 - 2.0099e+07 - - 59s

0 0 2.0099e+07 0 4768 - 2.0099e+07 - - 60s

0 0 2.0101e+07 0 4796 - 2.0101e+07 - - 61s

0 0 2.0101e+07 0 4791 - 2.0101e+07 - - 63s

0 2 2.0101e+07 0 4791 - 2.0101e+07 - - 72s

127 132 2.0111e+07 31 4755 - 2.0101e+07 - 29.8 75s

364 378 2.0141e+07 88 4671 - 2.0101e+07 - 15.6 80s

560 598 2.0151e+07 134 4633 - 2.0101e+07 - 11.8 85s

836 873 2.0170e+07 203 4543 - 2.0101e+07 - 10.5 90s

1030 1077 2.0184e+07 248 4455 - 2.0101e+07 - 10.4 95s

1279 1311 2.0194e+07 309 4356 - 2.0101e+07 - 9.7 100s

1444 1513 2.0201e+07 344 4308 - 2.0101e+07 - 9.3 105s

1686 1743 2.0213e+07 401 4215 - 2.0101e+07 - 8.8 110s

1974 2032 2.0229e+07 463 4091 - 2.0101e+07 - 8.6 115s

2211 2304 2.0241e+07 519 4015 - 2.0101e+07 - 8.4 121s

2401 2506 2.0245e+07 566 3900 - 2.0101e+07 - 8.3 125s

2734 2857 2.0259e+07 641 3744 - 2.0101e+07 - 8.3 131s

2992 3094 2.0261e+07 702 3593 - 2.0101e+07 - 8.0 136s

3265 3392 2.0267e+07 777 3395 - 2.0101e+07 - 7.9 141s

3504 3634 2.0279e+07 827 3314 - 2.0101e+07 - 8.0 146s

3738 3910 2.0289e+07 872 3259 - 2.0101e+07 - 8.0 151s

4061 4221 2.0296e+07 946 3118 - 2.0101e+07 - 7.8 157s

4226 4384 2.0301e+07 971 3057 - 2.0101e+07 - 7.8 161s

4626 4791 2.0319e+07 1062 2828 - 2.0101e+07 - 7.7 168s

4802 5016 2.0324e+07 1098 2768 - 2.0101e+07 - 7.6 172s

5027 5248 2.0328e+07 1146 2611 - 2.0101e+07 - 7.6 176s

5262 5250 2.0143e+07 89 6052 - 2.0101e+07 - 7.5 205s

5263 5251 2.0288e+07 868 5977 - 2.0101e+07 - 7.5 230s

5264 5252 2.0261e+07 688 4802 - 2.0101e+07 - 7.5 242s

5265 5252 2.0282e+07 872 4067 - 2.0101e+07 - 7.5 246s

5267 5254 2.0241e+07 512 3523 - 2.0103e+07 - 7.5 250s

5269 5255 2.0134e+07 69 4538 - 2.0110e+07 - 7.5 255s

5272 5257 2.0283e+07 842 4601 - 2.0110e+07 - 7.5 261s

5273 5258 2.0145e+07 100 4606 - 2.0145e+07 - 7.5 272s

5276 5260 2.0256e+07 619 5461 - 2.0160e+07 - 7.5 275s

H 5278 4997 2.102035e+07 2.0182e+07 3.99% 7.5 290s

Cutting planes:

Learned: 319

Gomory: 437

Cover: 26

Implied bound: 1376

MIR: 4226

Flow cover: 8711

RLT: 1453

Relax-and-lift: 232

Explored 5278 nodes (233041 simplex iterations) in 290.97 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 2.10203e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 2.102034608394e+07, best bound 2.018222620435e+07, gap 3.9872%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\2.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 242.3144726305067 : 3000.0

2 : None : 0.09308963764514319 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 242.3144726305067 : 3000.0

2 : None : 0.09308963764514319 : 0.1

Terminado - Guardado de gráficos

simulacion 2 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\3.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\3.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x8746cd31

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 60013 rows and 42062 columns

Presolve time: 0.97s

Presolved: 88909 rows, 71818 columns, 248173 nonzeros

Variable types: 50635 continuous, 21183 integer (21183 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.698249e+07, 37367 iterations, 1.67 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6982e+07 0 5689 - 1.6982e+07 - - 8s

0 0 1.7382e+07 0 4866 - 1.7382e+07 - - 21s

0 0 1.7863e+07 0 4399 - 1.7863e+07 - - 27s

0 0 1.8065e+07 0 4392 - 1.8065e+07 - - 30s

0 0 1.8076e+07 0 4534 - 1.8076e+07 - - 32s

0 0 1.8078e+07 0 4495 - 1.8078e+07 - - 33s

0 0 1.8078e+07 0 4495 - 1.8078e+07 - - 34s

0 0 1.8291e+07 0 4634 - 1.8291e+07 - - 36s

0 0 1.8394e+07 0 4356 - 1.8394e+07 - - 38s

0 0 1.8408e+07 0 4531 - 1.8408e+07 - - 40s

0 0 1.8408e+07 0 4622 - 1.8408e+07 - - 40s

0 0 1.8409e+07 0 4641 - 1.8409e+07 - - 41s

0 0 1.8444e+07 0 4245 - 1.8444e+07 - - 45s

0 0 1.8449e+07 0 4381 - 1.8449e+07 - - 48s

0 0 1.8449e+07 0 4471 - 1.8449e+07 - - 48s

0 0 1.8460e+07 0 4444 - 1.8460e+07 - - 53s

H 0 0 1.936544e+07 1.8460e+07 4.68% - 54s

Cutting planes:

Learned: 263

Gomory: 243

Cover: 28

Implied bound: 1565

MIR: 3577

Flow cover: 8156

RLT: 2215

Relax-and-lift: 535

Explored 1 nodes (81524 simplex iterations) in 54.74 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 1.93654e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.936543548047e+07, best bound 1.845977700363e+07, gap 4.6767%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\3.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 232.55835438202914 : 3000.0

2 : None : 0.08782239126125067 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 232.55835438202914 : 3000.0

2 : None : 0.08782239126125067 : 0.1

Terminado - Guardado de gráficos

simulacion 3 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\4.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\4.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0xc7a7eacc

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [1e-04, 3e+03]

Presolve removed 52628 rows and 36308 columns

Presolve time: 0.94s

Presolved: 96294 rows, 77572 columns, 268517 nonzeros

Variable types: 55329 continuous, 22243 integer (22243 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.923167e+07, 39156 iterations, 1.92 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.9232e+07 0 7550 - 1.9232e+07 - - 8s

0 0 1.9773e+07 0 6346 - 1.9773e+07 - - 26s

0 0 2.0200e+07 0 5355 - 2.0200e+07 - - 36s

0 0 2.0431e+07 0 4969 - 2.0431e+07 - - 40s

0 0 2.0521e+07 0 4809 - 2.0521e+07 - - 42s

0 0 2.0523e+07 0 4787 - 2.0523e+07 - - 43s

0 0 2.0523e+07 0 4786 - 2.0523e+07 - - 43s

0 0 2.0523e+07 0 4786 - 2.0523e+07 - - 43s

0 0 2.0894e+07 0 4315 - 2.0894e+07 - - 46s

0 0 2.1039e+07 0 3570 - 2.1039e+07 - - 49s

0 0 2.1041e+07 0 3815 - 2.1041e+07 - - 50s

0 0 2.1041e+07 0 3829 - 2.1041e+07 - - 50s

0 0 2.1116e+07 0 4387 - 2.1116e+07 - - 58s

0 0 2.1151e+07 0 5292 - 2.1151e+07 - - 62s

0 0 2.1156e+07 0 5462 - 2.1156e+07 - - 63s

0 0 2.1156e+07 0 5481 - 2.1156e+07 - - 63s

0 0 2.1175e+07 0 5175 - 2.1175e+07 - - 68s

0 0 2.1185e+07 0 5571 - 2.1185e+07 - - 71s

0 0 2.1185e+07 0 5542 - 2.1185e+07 - - 72s

0 0 2.1190e+07 0 5641 - 2.1190e+07 - - 73s

H 0 0 2.236397e+07 2.1190e+07 5.25% - 74s

0 0 2.1191e+07 0 5696 2.2364e+07 2.1191e+07 5.25% - 76s

0 0 2.1192e+07 0 5621 2.2364e+07 2.1192e+07 5.24% - 77s

0 0 2.1192e+07 0 5620 2.2364e+07 2.1192e+07 5.24% - 79s

H 0 0 2.236109e+07 2.1192e+07 5.23% - 80s

0 2 2.1192e+07 0 5620 2.2361e+07 2.1192e+07 5.23% - 83s

H 27 32 2.235997e+07 2.1196e+07 5.21% 156 86s

H 28 32 2.235747e+07 2.1196e+07 5.20% 150 86s

H 30 32 2.235706e+07 2.1196e+07 5.19% 141 86s

H 92 97 2.235194e+07 2.1196e+07 5.17% 51.0 96s

H 93 97 2.234715e+07 2.1196e+07 5.15% 50.5 96s

117 137 2.1218e+07 31 5603 2.2347e+07 2.1196e+07 5.15% 41.4 103s

H 121 137 2.233813e+07 2.1196e+07 5.11% 40.2 103s

H 126 137 2.232881e+07 2.1196e+07 5.07% 38.9 103s

136 141 2.1220e+07 36 5590 2.2329e+07 2.1196e+07 5.07% 36.5 105s

201 210 2.1228e+07 50 5570 2.2329e+07 2.1196e+07 5.07% 28.3 110s

389 435 2.1248e+07 95 5466 2.2329e+07 2.1196e+07 5.07% 18.4 115s

679 725 2.1268e+07 164 5337 2.2329e+07 2.1196e+07 5.07% 14.3 120s

H 858 872 2.230547e+07 2.1196e+07 4.97% 13.0 124s

H 869 872 2.230066e+07 2.1196e+07 4.95% 12.9 124s

Cutting planes:

Learned: 394

Gomory: 145

Implied bound: 3513

MIR: 5196

Flow cover: 10964

RLT: 2622

Relax-and-lift: 486

Explored 871 nodes (110233 simplex iterations) in 125.10 seconds

Thread count was 8 (of 8 available processors)

Solution count 10: 2.23007e+07 2.23055e+07 2.23288e+07 ... 2.23611e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 2.230065560964e+07, best bound 2.119594119986e+07, gap 4.9537%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\4.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 220.44583513548324 : 3000.0

2 : None : 0.0784921931587219 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 220.44583513548324 : 3000.0

2 : None : 0.0784921931587219 : 0.1

Terminado - Guardado de gráficos

simulacion 4 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\5.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\5.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x829743e4

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [1e-04, 3e+03]

Presolve removed 52739 rows and 36617 columns

Presolve time: 0.96s

Presolved: 96183 rows, 77263 columns, 268015 nonzeros

Variable types: 54996 continuous, 22267 integer (22267 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.756007e+07, 37599 iterations, 1.75 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.7560e+07 0 7050 - 1.7560e+07 - - 8s

0 0 1.8148e+07 0 5789 - 1.8148e+07 - - 23s

0 0 1.8481e+07 0 5002 - 1.8481e+07 - - 32s

0 0 1.8682e+07 0 4217 - 1.8682e+07 - - 35s

0 0 1.8748e+07 0 4185 - 1.8748e+07 - - 37s

0 0 1.8750e+07 0 4146 - 1.8750e+07 - - 37s

0 0 1.8750e+07 0 4146 - 1.8750e+07 - - 38s

0 0 1.8750e+07 0 4146 - 1.8750e+07 - - 38s

0 0 1.9083e+07 0 3755 - 1.9083e+07 - - 41s

0 0 1.9180e+07 0 3555 - 1.9180e+07 - - 44s

0 0 1.9182e+07 0 3543 - 1.9182e+07 - - 45s

0 0 1.9182e+07 0 3549 - 1.9182e+07 - - 45s

0 0 1.9252e+07 0 4121 - 1.9252e+07 - - 52s

0 0 1.9285e+07 0 4824 - 1.9285e+07 - - 56s

0 0 1.9290e+07 0 4940 - 1.9290e+07 - - 57s

0 0 1.9290e+07 0 4959 - 1.9290e+07 - - 57s

0 0 1.9310e+07 0 4793 - 1.9310e+07 - - 62s

H 0 0 2.049538e+07 1.9310e+07 5.78% - 63s

H 0 0 2.049524e+07 1.9310e+07 5.78% - 64s

0 0 1.9317e+07 0 5047 2.0495e+07 1.9317e+07 5.75% - 65s

0 0 1.9318e+07 0 5106 2.0495e+07 1.9318e+07 5.74% - 65s

0 0 1.9318e+07 0 5100 2.0495e+07 1.9318e+07 5.74% - 66s

0 0 1.9323e+07 0 5205 2.0495e+07 1.9323e+07 5.72% - 67s

H 0 0 2.044762e+07 1.9323e+07 5.50% - 68s

0 0 1.9323e+07 0 5262 2.0448e+07 1.9323e+07 5.50% - 70s

0 0 1.9326e+07 0 5289 2.0448e+07 1.9326e+07 5.49% - 71s

0 0 1.9326e+07 0 5287 2.0448e+07 1.9326e+07 5.49% - 72s

H 0 0 2.043366e+07 1.9326e+07 5.42% - 74s

H 0 0 2.043362e+07 1.9326e+07 5.42% - 75s

H 0 2 2.043353e+07 1.9326e+07 5.42% - 78s

0 2 1.9326e+07 0 5287 2.0434e+07 1.9326e+07 5.42% - 78s

19 24 1.9338e+07 6 5310 2.0434e+07 1.9329e+07 5.41% 227 80s

H 29 34 2.043017e+07 1.9329e+07 5.39% 152 82s

59 64 1.9347e+07 14 5291 2.0430e+07 1.9329e+07 5.39% 79.9 85s

H 91 96 2.041459e+07 1.9329e+07 5.32% 54.9 93s

H 124 129 2.040281e+07 1.9329e+07 5.26% 42.6 102s

H 125 129 2.039916e+07 1.9329e+07 5.25% 42.4 102s

H 126 129 2.039864e+07 1.9329e+07 5.24% 42.2 102s

226 248 1.9364e+07 50 5219 2.0399e+07 1.9329e+07 5.24% 27.0 105s

409 424 1.9379e+07 93 5151 2.0399e+07 1.9329e+07 5.24% 18.6 110s

640 687 1.9396e+07 149 5054 2.0399e+07 1.9329e+07 5.24% 14.7 115s

930 973 1.9415e+07 218 4961 2.0399e+07 1.9329e+07 5.24% 12.3 120s

H 1000 1005 2.037425e+07 1.9329e+07 5.13% 11.8 122s

H 1001 1005 2.037210e+07 1.9329e+07 5.12% 11.8 122s

H 1002 1005 2.037008e+07 1.9329e+07 5.11% 11.8 122s

1052 1088 1.9422e+07 239 4886 2.0370e+07 1.9329e+07 5.11% 11.7 125s

1192 1277 1.9431e+07 271 4826 2.0370e+07 1.9329e+07 5.11% 11.2 130s

1479 1551 1.9449e+07 347 4692 2.0370e+07 1.9329e+07 5.11% 10.4 135s

1692 1766 1.9459e+07 399 4609 2.0370e+07 1.9329e+07 5.11% 9.9 140s

1898 1976 1.9471e+07 456 4515 2.0370e+07 1.9329e+07 5.11% 9.6 145s

2162 2227 1.9487e+07 513 4426 2.0370e+07 1.9329e+07 5.11% 9.3 151s

H 2226 2231 2.036327e+07 1.9329e+07 5.08% 9.3 161s

H 2228 2231 2.035767e+07 1.9329e+07 5.05% 9.3 161s

2235 2308 1.9489e+07 529 4410 2.0358e+07 1.9329e+07 5.05% 9.3 165s

2457 2530 1.9505e+07 570 4339 2.0358e+07 1.9329e+07 5.05% 9.2 171s

2618 2708 1.9512e+07 603 4290 2.0358e+07 1.9329e+07 5.05% 9.2 176s

H 2743 2748 2.035508e+07 1.9329e+07 5.04% 9.3 178s

2747 2825 1.9520e+07 630 4264 2.0355e+07 1.9329e+07 5.04% 9.3 180s

H 2846 2922 2.034963e+07 1.9329e+07 5.02% 9.2 184s

2921 3054 1.9530e+07 665 4203 2.0350e+07 1.9329e+07 5.02% 9.2 187s

H 3053 3113 2.033070e+07 1.9329e+07 4.93% 9.2 190s

Cutting planes:

Learned: 421

Gomory: 121

Implied bound: 3198

MIR: 4875

Flow cover: 10046

RLT: 2501

Relax-and-lift: 509

Explored 3112 nodes (122334 simplex iterations) in 190.29 seconds

Thread count was 8 (of 8 available processors)

Solution count 10: 2.03307e+07 2.03496e+07 2.03551e+07 ... 2.03992e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 2.033069799424e+07, best bound 1.932887562971e+07, gap 4.9276%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\5.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 220.69836957663446 : 3000.0

2 : None : 0.0640528299988764 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 220.69836957663446 : 3000.0

2 : None : 0.0640528299988764 : 0.1

Terminado - Guardado de gráficos

simulacion 5 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\6.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\6.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0xba31a0db

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 52816 rows and 36825 columns

Presolve time: 0.96s

Presolved: 96106 rows, 77055 columns, 267834 nonzeros

Variable types: 54765 continuous, 22290 integer (22290 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.02s

Solved with dual simplex

Root relaxation: objective 1.613486e+07, 35486 iterations, 1.78 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6135e+07 0 6412 - 1.6135e+07 - - 8s

0 0 1.6691e+07 0 5227 - 1.6691e+07 - - 28s

0 0 1.6969e+07 0 4486 - 1.6969e+07 - - 32s

0 0 1.7135e+07 0 3734 - 1.7135e+07 - - 35s

0 0 1.7183e+07 0 3652 - 1.7183e+07 - - 36s

0 0 1.7185e+07 0 3644 - 1.7185e+07 - - 37s

0 0 1.7185e+07 0 3641 - 1.7185e+07 - - 37s

0 0 1.7473e+07 0 3360 - 1.7473e+07 - - 40s

0 0 1.7541e+07 0 3192 - 1.7541e+07 - - 42s

0 0 1.7544e+07 0 3171 - 1.7544e+07 - - 43s

0 0 1.7544e+07 0 3171 - 1.7544e+07 - - 43s

0 0 1.7602e+07 0 3806 - 1.7602e+07 - - 50s

0 0 1.7634e+07 0 4429 - 1.7634e+07 - - 53s

0 0 1.7638e+07 0 4556 - 1.7638e+07 - - 53s

0 0 1.7638e+07 0 4567 - 1.7638e+07 - - 54s

0 0 1.7660e+07 0 4360 - 1.7660e+07 - - 59s

H 0 0 1.874380e+07 1.7660e+07 5.78% - 60s

H 0 0 1.874373e+07 1.7660e+07 5.78% - 60s

0 0 1.7667e+07 0 4691 1.8744e+07 1.7667e+07 5.75% - 61s

0 0 1.7668e+07 0 4724 1.8744e+07 1.7668e+07 5.74% - 62s

0 0 1.7668e+07 0 4742 1.8744e+07 1.7668e+07 5.74% - 62s

0 0 1.7672e+07 0 4747 1.8744e+07 1.7672e+07 5.72% - 63s

0 0 1.7672e+07 0 4870 1.8744e+07 1.7672e+07 5.72% - 65s

0 0 1.7674e+07 0 4846 1.8744e+07 1.7674e+07 5.71% - 67s

0 0 1.7674e+07 0 4840 1.8744e+07 1.7674e+07 5.71% - 68s

H 0 0 1.873966e+07 1.7674e+07 5.69% - 69s

H 0 2 1.873958e+07 1.7674e+07 5.69% - 72s

0 2 1.7674e+07 0 4840 1.8740e+07 1.7674e+07 5.69% - 72s

H 27 32 1.873948e+07 1.7677e+07 5.67% 148 76s

H 29 32 1.873936e+07 1.7677e+07 5.67% 139 76s

H 30 32 1.873351e+07 1.7677e+07 5.64% 134 76s

63 80 1.7692e+07 17 4884 1.8734e+07 1.7677e+07 5.64% 70.3 80s

H 89 94 1.872868e+07 1.7677e+07 5.62% 53.2 83s

H 122 127 1.871720e+07 1.7677e+07 5.56% 42.0 93s

H 124 127 1.871674e+07 1.7677e+07 5.56% 41.5 93s

153 158 1.7700e+07 35 4849 1.8717e+07 1.7677e+07 5.56% 34.9 96s

340 373 1.7722e+07 75 4774 1.8717e+07 1.7677e+07 5.56% 19.3 100s

580 611 1.7745e+07 135 4667 1.8717e+07 1.7677e+07 5.56% 14.2 105s

H 610 615 1.870367e+07 1.7677e+07 5.49% 13.8 106s

H 611 615 1.870199e+07 1.7677e+07 5.48% 13.8 106s

H 612 615 1.869827e+07 1.7677e+07 5.46% 13.8 106s

731 771 1.7752e+07 164 4582 1.8698e+07 1.7677e+07 5.46% 13.0 110s

968 1024 1.7770e+07 219 4461 1.8698e+07 1.7677e+07 5.46% 11.7 115s

H 1023 1028 1.867391e+07 1.7677e+07 5.34% 11.6 116s

H 1024 1028 1.867223e+07 1.7677e+07 5.33% 11.6 116s

H 1025 1028 1.865751e+07 1.7677e+07 5.26% 11.6 116s

1158 1209 1.7784e+07 264 4387 1.8658e+07 1.7677e+07 5.26% 11.1 120s

1365 1411 1.7797e+07 315 4253 1.8658e+07 1.7677e+07 5.26% 10.5 125s

1545 1614 1.7807e+07 353 4197 1.8658e+07 1.7677e+07 5.26% 10.1 130s

1733 1793 1.7817e+07 393 4168 1.8658e+07 1.7677e+07 5.26% 10.0 135s

H 1874 1889 1.861377e+07 1.7677e+07 5.03% 10.1 139s

H 1886 1889 1.861297e+07 1.7677e+07 5.03% 10.1 139s

1888 1935 1.7826e+07 421 4123 1.8613e+07 1.7677e+07 5.03% 10.1 141s

H 2064 2069 1.860414e+07 1.7677e+07 4.98% 10.1 154s

H 2065 2069 1.860117e+07 1.7677e+07 4.97% 10.1 154s

Cutting planes:

Learned: 351

Gomory: 143

Implied bound: 2945

MIR: 4585

Flow cover: 9461

RLT: 2238

Relax-and-lift: 499

Explored 2068 nodes (108621 simplex iterations) in 154.87 seconds

Thread count was 8 (of 8 available processors)

Solution count 10: 1.86012e+07 1.86041e+07 1.8613e+07 ... 1.87037e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.860116778700e+07, best bound 1.767674164258e+07, gap 4.9697%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\6.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 209.08808301487005 : 3000.0

2 : None : 0.0713299149733593 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 209.08808301487005 : 3000.0

2 : None : 0.0713299149733593 : 0.1

Terminado - Guardado de gráficos

simulacion 6 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\7.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\7.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x6bdae986

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 60059 rows and 42179 columns

Presolve time: 0.96s

Presolved: 88863 rows, 71701 columns, 248142 nonzeros

Variable types: 50476 continuous, 21225 integer (21225 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.579618e+07, 34189 iterations, 1.59 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.5796e+07 0 5097 - 1.5796e+07 - - 8s

0 0 1.6189e+07 0 4336 - 1.6189e+07 - - 19s

0 0 1.6585e+07 0 3991 - 1.6585e+07 - - 28s

0 0 1.6743e+07 0 4110 - 1.6743e+07 - - 30s

0 0 1.6752e+07 0 4210 - 1.6752e+07 - - 32s

0 0 1.6753e+07 0 4194 - 1.6753e+07 - - 32s

0 0 1.6753e+07 0 4203 - 1.6753e+07 - - 32s

0 0 1.6917e+07 0 4430 - 1.6917e+07 - - 35s

0 0 1.7005e+07 0 4144 - 1.7005e+07 - - 36s

0 0 1.7015e+07 0 4422 - 1.7015e+07 - - 38s

0 0 1.7015e+07 0 4512 - 1.7015e+07 - - 38s

0 0 1.7015e+07 0 4527 - 1.7015e+07 - - 38s

0 0 1.7056e+07 0 4081 - 1.7056e+07 - - 43s

H 0 0 1.805164e+07 1.7056e+07 5.52% - 44s

H 0 0 1.804694e+07 1.7056e+07 5.49% - 45s

0 0 1.7062e+07 0 4258 1.8047e+07 1.7062e+07 5.46% - 46s

0 0 1.7062e+07 0 4296 1.8047e+07 1.7062e+07 5.46% - 46s

0 0 1.7075e+07 0 4355 1.8047e+07 1.7075e+07 5.39% - 51s

H 0 0 1.804133e+07 1.7075e+07 5.36% - 53s

0 0 1.7077e+07 0 4401 1.8041e+07 1.7077e+07 5.35% - 53s

0 0 1.7077e+07 0 4459 1.8041e+07 1.7077e+07 5.35% - 54s

0 0 1.7080e+07 0 4446 1.8041e+07 1.7080e+07 5.33% - 55s

0 0 1.7080e+07 0 4443 1.8041e+07 1.7080e+07 5.33% - 57s

H 0 0 1.798512e+07 1.7080e+07 5.04% - 58s

0 2 1.7080e+07 0 4443 1.7985e+07 1.7080e+07 5.04% - 61s

31 36 1.7084e+07 9 4516 1.7985e+07 1.7080e+07 5.03% 170 65s

H 60 68 1.798072e+07 1.7080e+07 5.01% 94.5 67s

H 64 68 1.797737e+07 1.7080e+07 4.99% 89.2 67s

Cutting planes:

Learned: 235

Gomory: 220

Cover: 29

Implied bound: 1538

MIR: 3929

Flow cover: 8025

RLT: 1855

Relax-and-lift: 618

Explored 67 nodes (87599 simplex iterations) in 67.30 seconds

Thread count was 8 (of 8 available processors)

Solution count 6: 1.79774e+07 1.79807e+07 1.79851e+07 ... 1.80516e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.797736623309e+07, best bound 1.708030158881e+07, gap 4.9900%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\7.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 228.5734623205345 : 3000.0

2 : None : 0.07936174622362611 : 0.1

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 228.5734623205345 : 3000.0

2 : None : 0.07936174622362611 : 0.1

Terminado - Guardado de gráficos

simulacion 7 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\8.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\8.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x2fea69c4

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 60059 rows and 42179 columns

Presolve time: 0.96s

Presolved: 88863 rows, 71701 columns, 248142 nonzeros

Variable types: 50476 continuous, 21225 integer (21225 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.01s

Solved with dual simplex

Root relaxation: objective 1.579618e+07, 34189 iterations, 1.62 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.5796e+07 0 5097 - 1.5796e+07 - - 8s

0 0 1.6189e+07 0 4336 - 1.6189e+07 - - 20s

0 0 1.6585e+07 0 3992 - 1.6585e+07 - - 29s

0 0 1.6743e+07 0 4114 - 1.6743e+07 - - 31s

0 0 1.6752e+07 0 4211 - 1.6752e+07 - - 33s

0 0 1.6753e+07 0 4194 - 1.6753e+07 - - 33s

0 0 1.6753e+07 0 4203 - 1.6753e+07 - - 34s

0 0 1.6917e+07 0 4435 - 1.6917e+07 - - 36s

0 0 1.7005e+07 0 4152 - 1.7005e+07 - - 37s

0 0 1.7015e+07 0 4417 - 1.7015e+07 - - 39s

0 0 1.7016e+07 0 4502 - 1.7016e+07 - - 39s

0 0 1.7016e+07 0 4518 - 1.7016e+07 - - 40s

0 0 1.7056e+07 0 4089 - 1.7056e+07 - - 45s

H 0 0 1.805966e+07 1.7056e+07 5.56% - 45s

H 0 0 1.805496e+07 1.7056e+07 5.53% - 46s

0 0 1.7062e+07 0 4271 1.8055e+07 1.7062e+07 5.50% - 47s

0 0 1.7063e+07 0 4309 1.8055e+07 1.7063e+07 5.50% - 47s

0 0 1.7063e+07 0 4341 1.8055e+07 1.7063e+07 5.50% - 48s

0 0 1.7075e+07 0 4324 1.8055e+07 1.7075e+07 5.43% - 53s

H 0 0 1.805323e+07 1.7075e+07 5.42% - 55s

0 0 1.7078e+07 0 4392 1.8053e+07 1.7078e+07 5.40% - 55s

0 0 1.7078e+07 0 4430 1.8053e+07 1.7078e+07 5.40% - 55s

0 0 1.7080e+07 0 4413 1.8053e+07 1.7080e+07 5.39% - 57s

0 0 1.7080e+07 0 4412 1.8053e+07 1.7080e+07 5.39% - 58s

H 0 0 1.798844e+07 1.7080e+07 5.05% - 59s

0 2 1.7080e+07 0 4412 1.7988e+07 1.7080e+07 5.05% - 62s

31 36 1.7084e+07 9 4483 1.7988e+07 1.7080e+07 5.05% 167 65s

H 60 68 1.798215e+07 1.7080e+07 5.02% 91.5 68s

H 64 68 1.798068e+07 1.7080e+07 5.01% 86.1 68s

71 91 1.7094e+07 18 4467 1.7981e+07 1.7080e+07 5.01% 78.2 70s

H 92 103 1.797918e+07 1.7080e+07 5.00% 62.8 71s

H 95 103 1.797808e+07 1.7080e+07 5.00% 61.0 71s

H 98 103 1.797433e+07 1.7080e+07 4.98% 59.4 71s

Cutting planes:

Learned: 243

Gomory: 224

Cover: 28

Implied bound: 1523

MIR: 3892

Flow cover: 7994

RLT: 1867

Relax-and-lift: 631

Explored 102 nodes (87691 simplex iterations) in 71.50 seconds

Thread count was 8 (of 8 available processors)

Solution count 9: 1.79743e+07 1.79781e+07 1.79792e+07 ... 1.80597e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.797432975055e+07, best bound 1.707995238020e+07, gap 4.9759%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\8.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 228.2116163694333 : 3000.0

2 : None : 0.07973648237293293 : 0.09

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 228.2116163694333 : 3000.0

2 : None : 0.07973648237293293 : 0.09

Terminado - Guardado de gráficos

simulacion 8 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\9.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\9.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x30971e1f

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [1e-04, 3e+03]

Presolve removed 52725 rows and 36609 columns

Presolve time: 0.96s

Presolved: 96197 rows, 77271 columns, 268056 nonzeros

Variable types: 55002 continuous, 22269 integer (22269 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.756395e+07, 37575 iterations, 1.75 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.7564e+07 0 7051 - 1.7564e+07 - - 8s

0 0 1.8152e+07 0 5798 - 1.8152e+07 - - 18s

0 0 1.8485e+07 0 5009 - 1.8485e+07 - - 34s

0 0 1.8686e+07 0 4224 - 1.8686e+07 - - 37s

0 0 1.8752e+07 0 4192 - 1.8752e+07 - - 39s

0 0 1.8754e+07 0 4152 - 1.8754e+07 - - 40s

0 0 1.8754e+07 0 4151 - 1.8754e+07 - - 40s

0 0 1.8754e+07 0 4151 - 1.8754e+07 - - 40s

0 0 1.9090e+07 0 3735 - 1.9090e+07 - - 43s

0 0 1.9186e+07 0 3559 - 1.9186e+07 - - 46s

0 0 1.9189e+07 0 3546 - 1.9189e+07 - - 47s

0 0 1.9189e+07 0 3546 - 1.9189e+07 - - 47s

0 0 1.9259e+07 0 4115 - 1.9259e+07 - - 54s

0 0 1.9290e+07 0 4816 - 1.9290e+07 - - 58s

0 0 1.9295e+07 0 4924 - 1.9295e+07 - - 59s

0 0 1.9295e+07 0 4935 - 1.9295e+07 - - 60s

0 0 1.9314e+07 0 4781 - 1.9314e+07 - - 65s

H 0 0 2.051515e+07 1.9314e+07 5.85% - 66s

H 0 0 2.051497e+07 1.9314e+07 5.85% - 67s

0 0 1.9320e+07 0 5057 2.0515e+07 1.9320e+07 5.82% - 68s

0 0 1.9321e+07 0 5095 2.0515e+07 1.9321e+07 5.82% - 68s

0 0 1.9322e+07 0 5089 2.0515e+07 1.9322e+07 5.82% - 68s

0 0 1.9326e+07 0 5207 2.0515e+07 1.9326e+07 5.80% - 70s

H 0 0 2.046254e+07 1.9326e+07 5.55% - 72s

0 0 1.9327e+07 0 5269 2.0463e+07 1.9327e+07 5.55% - 72s

0 0 1.9329e+07 0 5248 2.0463e+07 1.9329e+07 5.54% - 74s

0 0 1.9329e+07 0 5246 2.0463e+07 1.9329e+07 5.54% - 75s

H 0 0 2.044513e+07 1.9329e+07 5.46% - 77s

H 0 2 2.044322e+07 1.9329e+07 5.45% - 80s

0 2 1.9329e+07 0 5246 2.0443e+07 1.9329e+07 5.45% - 80s

H 27 32 2.044228e+07 1.9332e+07 5.43% 169 83s

H 28 32 2.044198e+07 1.9332e+07 5.43% 164 83s

H 30 32 2.043896e+07 1.9332e+07 5.41% 153 83s

57 62 1.9353e+07 15 5227 2.0439e+07 1.9332e+07 5.41% 85.8 86s

85 92 1.9354e+07 19 5223 2.0439e+07 1.9332e+07 5.41% 60.4 90s

H 86 92 2.042649e+07 1.9332e+07 5.36% 59.7 90s

H 114 119 2.038733e+07 1.9332e+07 5.18% 47.3 99s

118 130 1.9361e+07 27 5216 2.0387e+07 1.9332e+07 5.18% 46.2 100s

195 221 1.9366e+07 42 5189 2.0387e+07 1.9332e+07 5.18% 30.9 105s

322 359 1.9381e+07 75 5147 2.0387e+07 1.9332e+07 5.18% 22.2 110s

590 626 1.9402e+07 139 5047 2.0387e+07 1.9332e+07 5.18% 15.2 115s

807 820 1.9412e+07 184 4983 2.0387e+07 1.9332e+07 5.18% 13.0 120s

1013 1023 1.9425e+07 232 4882 2.0387e+07 1.9332e+07 5.18% 11.6 125s

1166 1211 1.9434e+07 265 4786 2.0387e+07 1.9332e+07 5.18% 11.2 130s

1419 1492 1.9452e+07 330 4666 2.0387e+07 1.9332e+07 5.18% 10.5 136s

1641 1711 1.9464e+07 384 4566 2.0387e+07 1.9332e+07 5.18% 9.9 140s

1805 1932 1.9471e+07 421 4517 2.0387e+07 1.9332e+07 5.18% 9.7 145s

H 2018 2023 2.037756e+07 1.9332e+07 5.13% 9.3 156s

2131 2223 1.9487e+07 500 4416 2.0378e+07 1.9332e+07 5.13% 9.1 160s

2397 2470 1.9506e+07 556 4339 2.0378e+07 1.9332e+07 5.13% 8.9 166s

2552 2586 1.9513e+07 582 4305 2.0378e+07 1.9332e+07 5.13% 9.0 170s

2673 2750 1.9519e+07 612 4243 2.0378e+07 1.9332e+07 5.13% 9.0 175s

2820 2895 1.9523e+07 636 4239 2.0378e+07 1.9332e+07 5.13% 9.0 180s

2894 2974 1.9528e+07 646 4219 2.0378e+07 1.9332e+07 5.13% 8.9 198s

H 2911 2974 2.020308e+07 1.9332e+07 4.31% 8.9 198s

H 2930 2974 2.020277e+07 1.9332e+07 4.31% 8.9 198s

H 2949 2974 2.020124e+07 1.9332e+07 4.30% 8.9 198s

H 2972 2974 2.019116e+07 1.9332e+07 4.25% 8.9 198s

Cutting planes:

Learned: 414

Gomory: 126

Implied bound: 3180

MIR: 4801

Flow cover: 10080

RLT: 2506

Relax-and-lift: 500

Explored 2973 nodes (120536 simplex iterations) in 198.62 seconds

Thread count was 8 (of 8 available processors)

Solution count 10: 2.01912e+07 2.02012e+07 2.02028e+07 ... 2.04423e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 2.019116394164e+07, best bound 1.933227124464e+07, gap 4.2538%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\9.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 270.02883784484163 : 3000.0

2 : None : 0.060165949684072226 : 0.09

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 270.02883784484163 : 3000.0

2 : None : 0.060165949684072226 : 0.09

Terminado - Guardado de gráficos

simulacion 9 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\10.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\10.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x151b86d1

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 52816 rows and 36825 columns

Presolve time: 0.95s

Presolved: 96106 rows, 77055 columns, 267834 nonzeros

Variable types: 54765 continuous, 22290 integer (22290 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.03s

Solved with dual simplex

Root relaxation: objective 1.613486e+07, 35486 iterations, 1.82 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6135e+07 0 6412 - 1.6135e+07 - - 8s

0 0 1.6691e+07 0 5222 - 1.6691e+07 - - 19s

0 0 1.6969e+07 0 4488 - 1.6969e+07 - - 35s

0 0 1.7135e+07 0 3738 - 1.7135e+07 - - 37s

0 0 1.7183e+07 0 3652 - 1.7183e+07 - - 39s

0 0 1.7185e+07 0 3644 - 1.7185e+07 - - 39s

0 0 1.7185e+07 0 3641 - 1.7185e+07 - - 39s

0 0 1.7471e+07 0 3362 - 1.7471e+07 - - 42s

0 0 1.7541e+07 0 3197 - 1.7541e+07 - - 44s

0 0 1.7544e+07 0 3171 - 1.7544e+07 - - 45s

0 0 1.7544e+07 0 3174 - 1.7544e+07 - - 45s

0 0 1.7602e+07 0 3799 - 1.7602e+07 - - 52s

0 0 1.7634e+07 0 4419 - 1.7634e+07 - - 59s

0 0 1.7638e+07 0 4554 - 1.7638e+07 - - 60s

0 0 1.7638e+07 0 4565 - 1.7638e+07 - - 60s

0 0 1.7660e+07 0 4354 - 1.7660e+07 - - 65s

0 0 1.7667e+07 0 4673 - 1.7667e+07 - - 66s

0 0 1.7668e+07 0 4713 - 1.7668e+07 - - 67s

0 0 1.7668e+07 0 4734 - 1.7668e+07 - - 67s

0 0 1.7672e+07 0 4763 - 1.7672e+07 - - 69s

0 0 1.7672e+07 0 4875 - 1.7672e+07 - - 69s

0 0 1.7674e+07 0 4848 - 1.7674e+07 - - 70s

0 0 1.7674e+07 0 4844 - 1.7674e+07 - - 72s

0 2 1.7674e+07 0 4844 - 1.7674e+07 - - 95s

120 129 1.7697e+07 29 4784 - 1.7678e+07 - 27.8 100s

370 403 1.7724e+07 85 4673 - 1.7678e+07 - 13.8 105s

591 617 1.7743e+07 137 4584 - 1.7678e+07 - 11.4 110s

825 862 1.7758e+07 184 4466 - 1.7678e+07 - 10.5 115s

1103 1165 1.7778e+07 250 4353 - 1.7678e+07 - 9.7 120s

1320 1386 1.7789e+07 295 4241 - 1.7678e+07 - 9.2 125s

1531 1606 1.7804e+07 351 4143 - 1.7678e+07 - 8.9 130s

1759 1806 1.7816e+07 406 4090 - 1.7678e+07 - 8.8 135s

1940 1988 1.7825e+07 435 4053 - 1.7678e+07 - 9.0 140s

2127 2198 1.7833e+07 468 4038 - 1.7678e+07 - 9.1 146s

2282 2355 1.7842e+07 497 4005 - 1.7678e+07 - 8.9 150s

2424 2523 1.7848e+07 526 3948 - 1.7678e+07 - 8.9 155s

2645 2755 1.7858e+07 573 3842 - 1.7678e+07 - 8.7 160s

2838 2972 1.7863e+07 611 3796 - 1.7678e+07 - 8.5 165s

3084 3269 1.7872e+07 671 3731 - 1.7678e+07 - 8.4 171s

3268 3476 1.7879e+07 720 3606 - 1.7678e+07 - 8.3 175s

3696 3977 1.7888e+07 834 3363 - 1.7678e+07 - 8.1 182s

3976 4205 1.7894e+07 901 3175 - 1.7678e+07 - 7.9 186s

4409 4637 1.7904e+07 997 2990 - 1.7678e+07 - 7.7 193s

4636 4954 1.7911e+07 1049 2924 - 1.7678e+07 - 7.6 198s

4953 5174 1.7920e+07 1130 2716 - 1.7678e+07 - 7.5 202s

5176 5176 1.7794e+07 317 6396 - 1.7678e+07 - 7.4 227s

5177 5177 1.7887e+07 815 5949 - 1.7678e+07 - 7.4 260s

5178 5178 1.7729e+07 97 4810 - 1.7678e+07 - 7.4 272s

5179 5178 1.7915e+07 1106 4187 - 1.7678e+07 - 7.4 277s

5180 5179 1.7880e+07 726 3232 - 1.7678e+07 - 7.4 283s

5181 5180 1.7907e+07 1011 3312 - 1.7678e+07 - 7.4 290s

5182 5180 1.7907e+07 1013 3874 - 1.7678e+07 - 7.4 297s

5183 5181 1.7864e+07 606 4513 - 1.7678e+07 - 7.4 302s

5185 5182 1.7809e+07 371 4861 - 1.7678e+07 - 7.4 306s

5188 5184 1.7912e+07 1053 4922 - 1.7678e+07 - 7.4 311s

5189 5185 1.7763e+07 194 4926 - 1.7730e+07 - 7.4 345s

5193 5188 1.7801e+07 334 5557 - 1.7747e+07 - 7.3 350s

5195 5189 1.7768e+07 182 5348 - 1.7768e+07 - 7.3 361s

5198 5191 1.7867e+07 623 5586 - 1.7780e+07 - 7.3 365s

5202 5194 1.7917e+07 1115 5545 - 1.7787e+07 - 7.3 378s

5204 5195 1.7792e+07 60 5808 - 1.7792e+07 - 7.3 380s

5208 5198 1.7913e+07 1083 6078 - 1.7793e+07 - 7.3 386s

5209 5198 1.7903e+07 968 5849 - 1.7797e+07 - 7.3 391s

5213 5201 1.7801e+07 171 6023 - 1.7801e+07 - 7.3 395s

5216 5203 1.7805e+07 180 5866 - 1.7805e+07 - 7.3 409s

5217 5204 1.7806e+07 206 5864 - 1.7806e+07 - 7.3 410s

5221 5206 1.7915e+07 1105 6129 - 1.7807e+07 - 7.3 416s

5222 5207 1.7927e+07 1173 5849 - 1.7809e+07 - 7.3 422s

5225 5209 1.7837e+07 472 6018 - 1.7810e+07 - 7.3 425s

5228 5211 1.7811e+07 248 5919 - 1.7811e+07 - 7.3 435s

5232 5214 1.7812e+07 176 5979 - 1.7812e+07 - 7.3 441s

5233 5214 1.7866e+07 639 5946 - 1.7813e+07 - 7.3 452s

5236 5216 1.7826e+07 435 6099 - 1.7813e+07 - 7.3 455s

5238 5218 1.7825e+07 437 5959 - 1.7814e+07 - 7.3 464s

5239 5218 1.7814e+07 332 6020 - 1.7814e+07 - 7.3 465s

5242 5220 1.7815e+07 211 5961 - 1.7815e+07 - 7.3 475s

5245 5222 1.7874e+07 677 6051 - 1.7815e+07 - 7.3 480s

5246 5223 1.7887e+07 812 6011 - 1.7816e+07 - 7.3 486s

5249 5225 1.7816e+07 182 6132 - 1.7816e+07 - 7.3 491s

5250 5226 1.7817e+07 50 5980 - 1.7817e+07 - 7.3 502s

5252 5227 1.7817e+07 402 6064 - 1.7817e+07 - 7.3 506s

5253 5228 1.7908e+07 1028 5986 - 1.7817e+07 - 7.3 548s

5255 5229 1.7817e+07 324 6040 - 1.7817e+07 - 7.3 552s

5256 5230 1.7818e+07 166 5943 - 1.7818e+07 - 7.3 570s

5259 5232 1.7868e+07 620 6007 - 1.7818e+07 - 7.3 587s

5260 5232 1.7825e+07 430 5943 - 1.7818e+07 - 7.3 604s

5261 5233 1.7818e+07 356 5973 - 1.7818e+07 - 7.3 605s

5262 5234 1.7872e+07 659 5994 - 1.7818e+07 - 7.3 620s

5263 5234 1.7832e+07 462 5929 - 1.7819e+07 - 7.2 625s

5266 5236 1.7851e+07 539 5957 - 1.7819e+07 - 7.2 635s

5269 5238 1.7819e+07 349 5987 - 1.7819e+07 - 7.2 644s

5270 5239 1.7904e+07 984 6010 - 1.7819e+07 - 7.2 645s

5272 5240 1.7903e+07 930 5973 - 1.7819e+07 - 7.2 654s

5273 5241 1.7880e+07 754 5999 - 1.7819e+07 - 7.2 655s

5275 5242 1.7848e+07 508 5987 - 1.7820e+07 - 7.2 663s

5276 5243 1.7820e+07 317 6001 - 1.7820e+07 - 7.2 667s

5277 5244 1.7887e+07 815 5984 - 1.7820e+07 - 7.2 672s

5278 5244 1.7820e+07 97 6005 - 1.7820e+07 - 7.2 675s

5279 5245 1.7915e+07 1106 5998 - 1.7820e+07 - 7.2 681s

5280 5246 1.7880e+07 726 5998 - 1.7820e+07 - 7.2 685s

5284 5249 1.7884e+07 802 6396 - 1.7820e+07 - 45.1 711s

5285 5250 1.7820e+07 371 6192 - 1.7820e+07 - 45.1 763s

5286 5251 1.7820e+07 90 5358 - 1.7820e+07 - 45.1 769s

5287 5251 1.7850e+07 535 4859 - 1.7820e+07 - 45.0 772s

5288 5252 1.7912e+07 1053 4428 - 1.7820e+07 - 45.0 777s

5289 5253 1.7820e+07 194 3774 - 1.7820e+07 - 45.0 780s

5290 5253 1.7833e+07 460 3538 - 1.7820e+07 - 45.0 785s

5291 5254 1.7862e+07 586 4039 - 1.7820e+07 - 45.0 791s

5292 5255 1.7883e+07 796 4441 - 1.7820e+07 - 45.0 796s

5295 5257 1.7820e+07 182 5127 - 1.7820e+07 - 45.0 802s

5297 5258 1.7825e+07 419 5703 - 1.7820e+07 - 45.0 805s

5300 5260 1.7883e+07 772 5794 - 1.7820e+07 - 44.9 811s

5301 5261 1.7922e+07 1137 5700 - 1.7820e+07 - 44.9 817s

5303 5262 1.7820e+07 91 5738 - 1.7820e+07 - 44.9 822s

5304 5263 1.7821e+07 60 5735 - 1.7821e+07 - 44.9 827s

5306 5264 1.7893e+07 894 5765 - 1.7821e+07 - 44.9 831s

5307 5265 1.7821e+07 20 5811 - 1.7821e+07 - 44.9 836s

5309 5266 1.7903e+07 968 5819 - 1.7821e+07 - 44.9 840s

5310 5267 1.7821e+07 73 5807 - 1.7821e+07 - 44.9 845s

5313 5269 1.7821e+07 171 5821 - 1.7821e+07 - 44.8 859s

5314 5269 1.7824e+07 430 5845 - 1.7821e+07 - 44.8 860s

5316 5271 1.7822e+07 180 5809 - 1.7822e+07 - 44.8 868s

5318 5272 1.7822e+07 16 5826 - 1.7822e+07 - 44.8 872s

5319 5273 1.7860e+07 579 5825 - 1.7822e+07 - 44.8 877s

5322 5275 1.7927e+07 1173 5867 - 1.7823e+07 - 44.8 883s

5323 5275 1.7872e+07 674 5804 - 1.7823e+07 - 44.7 888s

5325 5277 1.7837e+07 472 5856 - 1.7824e+07 - 44.7 892s

5326 5277 1.7897e+07 900 5863 - 1.7824e+07 - 44.7 903s

5328 5279 1.7824e+07 248 5876 - 1.7824e+07 - 44.7 907s

5329 5279 1.7862e+07 591 5839 - 1.7824e+07 - 44.7 913s

5330 5280 1.7882e+07 773 5888 - 1.7824e+07 - 44.7 915s

H 5332 5016 1.838883e+07 1.7825e+07 3.07% 44.7 950s

Cutting planes:

Learned: 263

Gomory: 346

Cover: 1

Implied bound: 2527

MIR: 4131

Flow cover: 10979

RLT: 1014

Relax-and-lift: 262

Explored 5332 nodes (452545 simplex iterations) in 951.03 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 1.83888e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.838883402665e+07, best bound 1.782463476518e+07, gap 3.0682%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\10.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 229.0638159426384 : 3000.0

2 : None : 0.04999999999999991 : 0.05

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 229.0638159426384 : 3000.0

2 : None : 0.04999999999999991 : 0.05

Terminado - Guardado de gráficos

simulacion 10 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\11.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\11.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x7747fd3e

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 52790 rows and 36757 columns

Presolve time: 0.98s

Presolved: 96132 rows, 77123 columns, 267887 nonzeros

Variable types: 54843 continuous, 22280 integer (22280 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.658020e+07, 36111 iterations, 1.82 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6580e+07 0 6650 - 1.6580e+07 - - 8s

0 0 1.7142e+07 0 5411 - 1.7142e+07 - - 23s

0 0 1.7445e+07 0 4709 - 1.7445e+07 - - 31s

0 0 1.7627e+07 0 3886 - 1.7627e+07 - - 34s

0 0 1.7684e+07 0 3750 - 1.7684e+07 - - 37s

0 0 1.7685e+07 0 3714 - 1.7685e+07 - - 37s

0 0 1.7685e+07 0 3705 - 1.7685e+07 - - 38s

0 0 1.7970e+07 0 3464 - 1.7970e+07 - - 42s

0 0 1.8043e+07 0 3342 - 1.8043e+07 - - 49s

0 0 1.8045e+07 0 3325 - 1.8045e+07 - - 49s

0 0 1.8045e+07 0 3330 - 1.8045e+07 - - 49s

0 0 1.8108e+07 0 3833 - 1.8108e+07 - - 56s

0 0 1.8140e+07 0 4606 - 1.8140e+07 - - 64s

0 0 1.8144e+07 0 4738 - 1.8144e+07 - - 64s

0 0 1.8144e+07 0 4740 - 1.8144e+07 - - 65s

0 0 1.8168e+07 0 4501 - 1.8168e+07 - - 70s

0 0 1.8176e+07 0 4826 - 1.8176e+07 - - 71s

0 0 1.8176e+07 0 4825 - 1.8176e+07 - - 71s

0 0 1.8181e+07 0 4968 - 1.8181e+07 - - 73s

0 0 1.8182e+07 0 5043 - 1.8182e+07 - - 73s

0 0 1.8184e+07 0 5007 - 1.8184e+07 - - 75s

0 0 1.8184e+07 0 5004 - 1.8184e+07 - - 76s

0 2 1.8184e+07 0 5004 - 1.8184e+07 - - 98s

61 70 1.8207e+07 17 4969 - 1.8188e+07 - 49.5 100s

271 281 1.8239e+07 60 4864 - 1.8188e+07 - 18.3 105s

535 582 1.8265e+07 123 4739 - 1.8188e+07 - 12.7 110s

777 812 1.8284e+07 173 4623 - 1.8188e+07 - 11.6 115s

985 1015 1.8302e+07 218 4543 - 1.8188e+07 - 10.9 120s

1204 1275 1.8317e+07 278 4485 - 1.8188e+07 - 10.2 125s

1531 1598 1.8336e+07 347 4358 - 1.8188e+07 - 9.6 130s

1751 1811 1.8344e+07 398 4269 - 1.8188e+07 - 9.2 135s

2005 2073 1.8360e+07 448 4218 - 1.8188e+07 - 9.0 141s

2209 2281 1.8370e+07 491 4145 - 1.8188e+07 - 9.0 146s

2348 2419 1.8376e+07 520 4117 - 1.8188e+07 - 8.9 150s

2574 2656 1.8387e+07 559 4042 - 1.8188e+07 - 8.8 156s

2722 2776 1.8392e+07 588 4021 - 1.8188e+07 - 8.7 160s

2910 3062 1.8398e+07 631 3971 - 1.8188e+07 - 8.5 165s

3231 3385 1.8408e+07 710 3840 - 1.8188e+07 - 8.2 171s

3552 3673 1.8418e+07 785 3671 - 1.8188e+07 - 8.1 177s

3779 3941 1.8425e+07 820 3610 - 1.8188e+07 - 8.0 183s

3940 4144 1.8431e+07 861 3540 - 1.8188e+07 - 8.0 186s

4143 4311 1.8439e+07 906 3422 - 1.8188e+07 - 7.9 190s

4558 4806 1.8453e+07 1014 3146 - 1.8188e+07 - 7.7 197s

4805 5092 1.8459e+07 1079 3001 - 1.8188e+07 - 7.6 201s

5091 5315 1.8466e+07 1153 2898 - 1.8188e+07 - 7.5 206s

5317 5317 1.8460e+07 1114 6634 - 1.8188e+07 - 7.4 233s

5318 5318 1.8456e+07 1072 6185 - 1.8188e+07 - 7.4 259s

5319 5319 1.8277e+07 145 4874 - 1.8188e+07 - 7.4 269s

5320 5319 1.8321e+07 309 4257 - 1.8188e+07 - 7.4 272s

5321 5320 1.8294e+07 200 3255 - 1.8188e+07 - 7.4 278s

5322 5321 1.8467e+07 1171 3345 - 1.8188e+07 - 7.4 286s

5323 5321 1.8221e+07 27 3987 - 1.8188e+07 - 7.4 294s

5324 5322 1.8328e+07 321 4602 - 1.8188e+07 - 7.4 298s

5325 5323 1.8259e+07 100 4829 - 1.8188e+07 - 7.4 301s

5327 5324 1.8393e+07 589 4983 - 1.8188e+07 - 7.4 305s

5330 5326 1.8312e+07 250 5149 - 1.8230e+07 - 7.4 347s

5332 5327 1.8243e+07 59 5653 - 1.8243e+07 - 7.3 350s

5335 5329 1.8418e+07 810 5568 - 1.8282e+07 - 7.3 362s

5337 5331 1.8374e+07 510 5630 - 1.8296e+07 - 7.3 365s

5341 5333 1.8470e+07 1187 6011 - 1.8298e+07 - 7.3 371s

5342 5334 1.8307e+07 215 5848 - 1.8307e+07 - 7.3 380s

5347 5337 1.8416e+07 778 6191 - 1.8311e+07 - 7.3 387s

5348 5338 1.8368e+07 483 5962 - 1.8318e+07 - 7.3 397s

5351 5340 1.8397e+07 610 6191 - 1.8320e+07 - 7.3 400s

5354 5342 1.8410e+07 755 6054 - 1.8325e+07 - 7.3 414s

5355 5343 1.8391e+07 579 6095 - 1.8326e+07 - 7.3 416s

5359 5345 1.8410e+07 734 6333 - 1.8328e+07 - 7.3 420s

5361 5347 1.8404e+07 671 6165 - 1.8331e+07 - 7.3 433s

5363 5348 1.8333e+07 42 6295 - 1.8333e+07 - 7.3 435s

5366 5350 1.8333e+07 323 6385 - 1.8333e+07 - 7.3 441s

5367 5351 1.8432e+07 887 6167 - 1.8335e+07 - 7.3 495s

5372 5354 1.8336e+07 331 6342 - 1.8336e+07 - 7.3 502s

5373 5355 1.8438e+07 942 6128 - 1.8338e+07 - 7.3 508s

5375 5356 1.8470e+07 1184 6247 - 1.8339e+07 - 7.3 510s

5379 5359 1.8339e+07 44 6360 - 1.8339e+07 - 7.3 517s

5380 5359 1.8385e+07 546 6269 - 1.8340e+07 - 7.3 523s

5383 5361 1.8346e+07 398 6405 - 1.8340e+07 - 7.3 525s

5385 5363 1.8341e+07 126 6199 - 1.8341e+07 - 7.3 534s

5386 5363 1.8406e+07 691 6279 - 1.8341e+07 - 7.3 535s

5388 5365 1.8341e+07 55 6380 - 1.8341e+07 - 7.3 540s

5389 5365 1.8342e+07 19 6267 - 1.8342e+07 - 7.3 546s

5392 5367 1.8342e+07 406 6327 - 1.8342e+07 - 7.3 551s

5393 5368 1.8457e+07 1069 6240 - 1.8343e+07 - 7.3 557s

5396 5370 1.8396e+07 618 6274 - 1.8343e+07 - 7.3 562s

5397 5371 1.8403e+07 709 6250 - 1.8343e+07 - 7.3 568s

5399 5372 1.8466e+07 1165 6344 - 1.8343e+07 - 7.3 573s

5400 5373 1.8422e+07 845 6280 - 1.8343e+07 - 7.3 591s

5403 5375 1.8348e+07 422 6357 - 1.8344e+07 - 7.3 608s

5404 5375 1.8462e+07 1132 6279 - 1.8344e+07 - 7.3 627s

5407 5377 1.8386e+07 546 6366 - 1.8344e+07 - 7.2 644s

5408 5378 1.8344e+07 8 6332 - 1.8344e+07 - 7.2 650s

5411 5380 1.8460e+07 1106 6293 - 1.8344e+07 - 7.2 660s

5414 5382 1.8344e+07 198 6311 - 1.8344e+07 - 7.2 669s

5415 5383 1.8448e+07 995 6321 - 1.8344e+07 - 7.2 673s

5416 5383 1.8344e+07 108 6284 - 1.8344e+07 - 7.2 678s

5417 5384 1.8460e+07 1114 6301 - 1.8344e+07 - 7.2 681s

5418 5385 1.8456e+07 1072 6289 - 1.8345e+07 - 7.2 687s

5419 5385 1.8345e+07 145 6289 - 1.8345e+07 - 7.2 691s

5423 5389 1.8345e+07 27 6634 - 1.8345e+07 - 45.7 716s

5424 5390 1.8345e+07 321 6427 - 1.8345e+07 - 45.7 747s

5425 5391 1.8345e+07 100 5669 - 1.8345e+07 - 45.7 761s

5426 5391 1.8393e+07 631 5062 - 1.8345e+07 - 45.7 766s

5427 5392 1.8393e+07 589 4602 - 1.8345e+07 - 45.7 771s

5428 5393 1.8345e+07 151 3984 - 1.8345e+07 - 45.7 776s

5429 5393 1.8438e+07 943 3749 - 1.8345e+07 - 45.7 782s

5430 5394 1.8345e+07 250 4157 - 1.8345e+07 - 45.6 789s

5431 5395 1.8432e+07 910 4589 - 1.8345e+07 - 45.6 795s

5434 5397 1.8360e+07 453 5174 - 1.8345e+07 - 45.6 802s

5435 5397 1.8418e+07 810 5655 - 1.8345e+07 - 45.6 806s

5438 5399 1.8447e+07 968 5984 - 1.8345e+07 - 45.6 813s

5439 5400 1.8345e+07 58 5959 - 1.8345e+07 - 45.6 862s

5441 5401 1.8470e+07 1187 6001 - 1.8345e+07 - 45.5 866s

5442 5402 1.8346e+07 215 6031 - 1.8346e+07 - 45.5 877s

5445 5404 1.8433e+07 911 6137 - 1.8347e+07 - 45.5 883s

5446 5405 1.8347e+07 31 6059 - 1.8347e+07 - 45.5 888s

5448 5406 1.8368e+07 483 6150 - 1.8347e+07 - 45.5 890s

5450 5407 1.8461e+07 1110 6056 - 1.8348e+07 - 45.5 898s

5452 5409 1.8426e+07 822 6082 - 1.8348e+07 - 45.5 902s

5453 5409 1.8452e+07 1009 6092 - 1.8348e+07 - 45.4 908s

5455 5411 1.8391e+07 579 6132 - 1.8348e+07 - 45.4 912s

5456 5411 1.8428e+07 834 6128 - 1.8348e+07 - 45.4 922s

5458 5413 1.8357e+07 439 6145 - 1.8348e+07 - 45.4 927s

5459 5413 1.8410e+07 734 6103 - 1.8349e+07 - 45.4 938s

5461 5415 1.8404e+07 671 6177 - 1.8349e+07 - 45.4 942s

5462 5415 1.8446e+07 953 6130 - 1.8349e+07 - 45.4 948s

5464 5417 1.8395e+07 615 6199 - 1.8349e+07 - 45.4 950s

5466 5418 1.8350e+07 323 6149 - 1.8350e+07 - 45.3 959s

5467 5419 1.8432e+07 887 6155 - 1.8350e+07 - 45.3 960s

5470 5421 1.8365e+07 481 6103 - 1.8350e+07 - 45.3 970s

5473 5423 1.8438e+07 942 6144 - 1.8350e+07 - 45.3 980s

5476 5425 1.8356e+07 448 6148 - 1.8351e+07 - 45.3 989s

5477 5425 1.8442e+07 971 6162 - 1.8351e+07 - 45.2 990s

5479 5427 1.8351e+07 44 6181 - 1.8351e+07 - 45.2 1004s

5480 5427 1.8385e+07 546 6218 - 1.8351e+07 - 45.2 1005s

5482 5429 1.8356e+07 436 6180 - 1.8351e+07 - 45.2 1041s

5484 5430 1.8399e+07 635 6241 - 1.8351e+07 - 45.2 1057s

5485 5431 1.8351e+07 126 6216 - 1.8351e+07 - 45.2 1074s

5486 5431 1.8406e+07 691 6226 - 1.8351e+07 - 45.2 1075s

5487 5432 1.8471e+07 1197 6266 - 1.8351e+07 - 45.2 1090s

5488 5433 1.8351e+07 55 6232 - 1.8351e+07 - 45.2 1146s

5490 5434 1.8406e+07 697 6272 - 1.8352e+07 - 45.1 1150s

5491 5435 1.8394e+07 605 6201 - 1.8352e+07 - 45.1 1156s

5493 5436 1.8457e+07 1069 6203 - 1.8352e+07 - 45.1 1165s

5495 5437 1.8352e+07 398 6208 - 1.8352e+07 - 45.1 1174s

5496 5438 1.8396e+07 618 6232 - 1.8352e+07 - 45.1 1178s

5497 5439 1.8403e+07 709 6214 - 1.8352e+07 - 45.1 1184s

5498 5439 1.8469e+07 1178 6212 - 1.8352e+07 - 45.1 1187s

5499 5440 1.8466e+07 1165 6212 - 1.8352e+07 - 45.1 1254s

5500 5444 1.8353e+07 30 6209 - 1.8352e+07 - 66.6 1257s

5526 5463 1.8356e+07 34 6192 - 1.8354e+07 - 66.3 1260s

5570 5514 1.8357e+07 40 6171 - 1.8354e+07 - 65.9 1265s

5637 5557 1.8361e+07 48 6123 - 1.8354e+07 - 65.3 1271s

5690 5597 1.8364e+07 56 6097 - 1.8354e+07 - 64.9 1275s

5783 5665 1.8367e+07 67 6066 - 1.8354e+07 - 64.1 1281s

5847 5713 1.8367e+07 75 6042 - 1.8354e+07 - 63.5 1286s

5923 5761 1.8369e+07 84 6017 - 1.8354e+07 - 62.8 1290s

6004 5822 1.8371e+07 93 5988 - 1.8354e+07 - 62.2 1296s

6090 5877 1.8371e+07 104 5968 - 1.8354e+07 - 61.5 1301s

6176 5939 1.8372e+07 115 5933 - 1.8354e+07 - 60.8 1308s

6223 5968 1.8375e+07 120 5917 - 1.8354e+07 - 60.4 1311s

6317 6034 1.8377e+07 131 5888 - 1.8354e+07 - 59.8 1318s

6365 6079 1.8375e+07 137 5881 - 1.8354e+07 - 59.4 1322s

6426 6115 1.8377e+07 144 5866 - 1.8354e+07 - 59.0 1325s

6536 6189 1.8379e+07 158 5825 - 1.8354e+07 - 58.3 1333s

6593 6234 1.8382e+07 165 5824 - 1.8354e+07 - 57.9 1338s

6657 6281 1.8383e+07 174 5801 - 1.8354e+07 - 57.5 1342s

6725 6327 1.8386e+07 182 5790 - 1.8354e+07 - 57.1 1347s

6794 6376 1.8385e+07 191 5772 - 1.8354e+07 - 56.7 1352s

6866 6432 1.8388e+07 199 5759 - 1.8354e+07 - 56.2 1357s

6946 6484 1.8389e+07 208 5727 - 1.8354e+07 - 55.8 1362s

7024 6536 1.8389e+07 218 5707 - 1.8354e+07 - 55.3 1367s

7102 6602 1.8392e+07 228 5679 - 1.8354e+07 - 54.9 1373s

7194 6662 1.8394e+07 238 5675 - 1.8354e+07 - 54.4 1379s

7285 6722 1.8396e+07 249 5650 - 1.8354e+07 - 53.9 1385s

7375 6788 1.8396e+07 261 5618 - 1.8354e+07 - 53.5 1391s

7471 6854 1.8397e+07 273 5592 - 1.8354e+07 - 53.0 1398s

7569 6929 1.8399e+07 285 5549 - 1.8354e+07 - 52.6 1404s

7677 6997 1.8401e+07 299 5498 - 1.8354e+07 - 52.1 1411s

7781 7070 1.8407e+07 311 5449 - 1.8354e+07 - 51.7 1419s

7889 7154 1.8405e+07 323 5416 - 1.8354e+07 - 51.2 1426s

8009 7235 1.8404e+07 338 5353 - 1.8354e+07 - 50.7 1434s

8130 7321 1.8405e+07 353 5332 - 1.8354e+07 - 50.2 1442s

8256 7414 1.8408e+07 369 5301 - 1.8354e+07 - 49.7 1451s

8391 7508 1.8409e+07 387 5267 - 1.8354e+07 - 49.1 1460s

8530 7600 1.8411e+07 404 5225 - 1.8354e+07 - 48.6 1469s

8668 7702 1.8414e+07 420 5198 - 1.8354e+07 - 48.1 1479s

8816 7822 1.8415e+07 439 5160 - 1.8354e+07 - 47.6 1489s

8986 7934 1.8418e+07 461 5107 - 1.8354e+07 - 46.9 1499s

9154 8055 1.8422e+07 481 5081 - 1.8354e+07 - 46.4 1510s

9331 8183 1.8425e+07 502 5036 - 1.8354e+07 - 45.8 1522s

9518 8308 1.8426e+07 525 4999 - 1.8354e+07 - 45.2 1533s

9706 8449 1.8427e+07 548 4967 - 1.8354e+07 - 44.6 1546s

9909 8585 1.8428e+07 573 4921 - 1.8354e+07 - 43.9 1558s

10113 8742 1.8431e+07 598 4882 - 1.8354e+07 - 43.3 1571s

10338 8894 1.8435e+07 626 4819 - 1.8354e+07 - 42.6 1586s

10567 9057 1.8437e+07 653 4777 - 1.8354e+07 - 42.0 1600s

10806 9219 1.8442e+07 683 4737 - 1.8354e+07 - 41.4 1615s

11048 9382 1.8442e+07 715 4681 - 1.8354e+07 - 40.8 1630s

11292 9544 1.8443e+07 747 4606 - 1.8354e+07 - 40.3 1645s

11535 9735 1.8445e+07 777 4546 - 1.8354e+07 - 39.7 1662s

11807 9929 1.8449e+07 813 4501 - 1.8354e+07 - 39.1 1678s

12092 10127 1.8448e+07 852 4442 - 1.8354e+07 - 38.5 1695s

12385 10332 1.8449e+07 888 4389 - 1.8354e+07 - 37.8 1713s

12687 10544 1.8453e+07 929 4327 - 1.8354e+07 - 37.2 1731s

13000 10779 1.8454e+07 968 4264 - 1.8354e+07 - 36.6 1750s

13339 11013 1.8458e+07 1011 4209 - 1.8354e+07 - 36.0 1770s

13688 11248 1.8461e+07 1055 4145 - 1.8354e+07 - 35.4 1790s

14040 11514 1.8461e+07 1099 4094 - 1.8354e+07 - 34.7 1811s

14423 11771 1.8465e+07 1149 4052 - 1.8354e+07 - 34.1 1833s

14808 12057 1.8468e+07 1197 4002 - 1.8354e+07 - 33.5 1856s

15222 12335 1.8470e+07 1251 3937 - 1.8354e+07 - 32.9 1880s

15648 12623 1.8473e+07 1307 3860 - 1.8354e+07 - 32.3 1904s

16082 12923 1.8475e+07 1363 3795 - 1.8354e+07 - 31.7 1928s

16527 13191 1.8480e+07 1414 3722 - 1.8354e+07 - 31.2 1952s

16943 13475 1.8483e+07 1470 3635 - 1.8354e+07 - 30.7 1976s

17366 13806 1.8484e+07 1523 3582 - 1.8354e+07 - 30.2 2000s

17838 14084 1.8489e+07 1584 3531 - 1.8354e+07 - 29.7 2024s

18273 14408 1.8491e+07 1641 3451 - 1.8354e+07 - 29.3 2048s

18744 14718 1.8494e+07 1698 3379 - 1.8354e+07 - 28.8 2071s

19219 15023 1.8498e+07 1761 3315 - 1.8354e+07 - 28.3 2095s

19686 15340 1.8500e+07 1817 3225 - 1.8354e+07 - 27.9 2119s

20161 15659 1.8502e+07 1875 3163 - 1.8354e+07 - 27.5 2142s

20638 15995 1.8506e+07 1932 3105 - 1.8354e+07 - 27.1 2166s

21133 16296 1.8507e+07 1994 3040 - 1.8354e+07 - 26.7 2535s

21599 16559 1.8515e+07 2064 3007 - 1.8354e+07 - 26.4 2557s

22018 16933 1.8516e+07 2123 2942 - 1.8354e+07 - 26.2 2580s

22469 17359 1.8519e+07 2188 2870 - 1.8354e+07 - 25.9 2602s

22895 17783 1.8521e+07 2250 2790 - 1.8354e+07 - 25.6 2623s

23319 18206 1.8524e+07 2309 2704 - 1.8354e+07 - 25.4 2645s

23742 18626 1.8529e+07 2369 2622 - 1.8354e+07 - 25.1 2666s

24162 19047 1.8533e+07 2422 2571 - 1.8354e+07 - 24.9 2687s

24583 19497 1.8534e+07 2479 2492 - 1.8354e+07 - 24.6 2709s

25037 19946 1.8536e+07 2544 2434 - 1.8354e+07 - 24.4 2731s

25488 20377 1.8538e+07 2601 2370 - 1.8354e+07 - 24.1 2752s

25921 20852 1.8542e+07 2660 2316 - 1.8354e+07 - 23.9 2773s

26398 21315 1.8541e+07 2727 2262 - 1.8354e+07 - 23.7 2794s

26861 21758 1.8547e+07 2786 2194 - 1.8354e+07 - 23.5 2814s

27306 22202 1.8550e+07 2845 2148 - 1.8354e+07 - 23.3 2835s

27752 22664 1.8556e+07 2906 2108 - 1.8354e+07 - 23.1 2855s

28216 23098 1.8551e+07 2971 2057 - 1.8354e+07 - 22.9 2876s

28650 23366 1.8553e+07 3028 2032 - 1.8354e+07 - 22.7 2940s

28918 23843 1.8555e+07 3062 1984 - 1.8354e+07 - 22.6 2961s

29395 24321 1.8556e+07 3119 1935 - 1.8354e+07 - 22.4 2983s

29875 24837 1.8565e+07 3181 1871 - 1.8354e+07 - 22.2 3004s

30391 25351 1.8561e+07 3247 1780 - 1.8354e+07 - 22.0 3025s

30909 25841 1.8565e+07 3316 1718 - 1.8354e+07 - 21.8 3046s

31399 26334 1.8573e+07 3380 1664 - 1.8354e+07 - 21.7 3070s

31892 26726 1.8572e+07 3456 1588 - 1.8354e+07 - 21.5 3090s

32284 27125 1.8576e+07 3504 1517 - 1.8354e+07 - 21.4 3110s

32683 27494 1.8585e+07 3547 1471 - 1.8354e+07 - 21.3 3131s

33054 27886 1.8580e+07 3585 1405 - 1.8354e+07 - 21.3 3152s

33446 28267 1.8581e+07 3634 1333 - 1.8354e+07 - 21.2 3174s

33827 28659 1.8583e+07 3679 1322 - 1.8354e+07 - 21.2 3197s

34219 29050 1.8584e+07 3726 1286 - 1.8354e+07 - 21.1 3219s

34610 29467 1.8585e+07 3776 1228 - 1.8354e+07 - 21.1 3241s

35027 29870 1.8587e+07 3826 1202 - 1.8354e+07 - 21.0 3263s

35430 30281 1.8589e+07 3874 1174 - 1.8354e+07 - 21.0 3286s

35841 30715 1.8591e+07 3927 1131 - 1.8354e+07 - 21.0 3309s

36279 31145 1.8594e+07 3982 1078 - 1.8354e+07 - 20.9 3331s

36713 31588 1.8597e+07 4040 1052 - 1.8354e+07 - 20.8 3354s

37158 32020 1.8599e+07 4094 1035 - 1.8354e+07 - 20.7 3377s

37596 32467 1.8601e+07 4149 980 - 1.8354e+07 - 20.6 3400s

38043 32919 1.8603e+07 4204 955 - 1.8354e+07 - 20.6 3422s

38495 33385 1.8603e+07 4255 898 - 1.8354e+07 - 20.5 3445s

38963 33850 1.8605e+07 4307 853 - 1.8354e+07 - 20.4 3468s

39430 34321 1.8607e+07 4361 803 - 1.8354e+07 - 20.3 3490s

39907 34831 1.8610e+07 4421 779 - 1.8354e+07 - 20.2 3512s

40425 35302 1.8612e+07 4487 745 - 1.8354e+07 - 20.1 3534s

40904 35770 1.8614e+07 4542 717 - 1.8354e+07 - 20.1 3556s

41384 36242 1.8615e+07 4598 688 - 1.8354e+07 - 20.0 3577s

41868 36686 1.8617e+07 4662 641 - 1.8354e+07 - 19.9 3600s

42328 37120 1.8619e+07 4725 627 - 1.8354e+07 - 19.8 3621s

42772 37561 1.8625e+07 4788 554 - 1.8354e+07 - 19.8 3641s

43217 38023 1.8626e+07 4855 505 - 1.8354e+07 - 19.7 3661s

43681 38472 1.8632e+07 4926 457 - 1.8354e+07 - 19.6 3680s

44134 38928 1.8632e+07 4997 399 - 1.8354e+07 - 19.5 3700s

44592 39418 1.8636e+07 5062 355 - 1.8354e+07 - 19.5 3718s

45082 39882 1.8641e+07 5131 293 - 1.8354e+07 - 19.4 3737s

45546 40335 1.8641e+07 5194 259 - 1.8354e+07 - 19.3 3755s

46001 40791 1.8642e+07 5255 231 - 1.8354e+07 - 19.2 3774s

46457 41225 1.8648e+07 5316 199 - 1.8354e+07 - 19.2 3792s

46891 41704 1.8652e+07 5378 161 - 1.8354e+07 - 19.1 3810s

47370 42138 1.8650e+07 5447 117 - 1.8354e+07 - 19.0 3828s

47804 42582 1.8651e+07 5505 100 - 1.8354e+07 - 19.0 3845s

48248 43057 1.8665e+07 5564 92 - 1.8354e+07 - 18.9 3863s

48723 43497 1.8657e+07 5625 49 - 1.8354e+07 - 18.9 3881s

49163 43882 1.8664e+07 5684 17 - 1.8354e+07 - 18.8 3899s

\*49209 43484 5707 1.865747e+07 1.8354e+07 1.63% 18.8 3899s

\*49210 43483 5707 1.865746e+07 1.8354e+07 1.63% 18.8 3899s

Cutting planes:

Learned: 238

Gomory: 326

Implied bound: 2475

MIR: 4418

Flow cover: 11618

RLT: 993

Relax-and-lift: 255

Explored 49694 nodes (1060396 simplex iterations) in 3901.59 seconds

Thread count was 8 (of 8 available processors)

Solution count 2: 1.86575e+07 1.86575e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.865746154000e+07, best bound 1.835394157625e+07, gap 1.6268%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\11.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 246.81271525144498 : 3000.0

2 : None : 0.030000000000000037 : 0.03

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 246.81271525144498 : 3000.0

2 : None : 0.030000000000000037 : 0.03

Terminado - Guardado de gráficos

simulacion 11 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\12.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\12.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x4510430d

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 52816 rows and 36825 columns

Presolve time: 1.02s

Presolved: 96106 rows, 77055 columns, 267834 nonzeros

Variable types: 54765 continuous, 22290 integer (22290 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.613486e+07, 35486 iterations, 1.78 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6135e+07 0 6412 - 1.6135e+07 - - 8s

0 0 1.6691e+07 0 5222 - 1.6691e+07 - - 28s

0 0 1.6969e+07 0 4487 - 1.6969e+07 - - 36s

0 0 1.7135e+07 0 3736 - 1.7135e+07 - - 39s

0 0 1.7183e+07 0 3649 - 1.7183e+07 - - 40s

0 0 1.7185e+07 0 3643 - 1.7185e+07 - - 41s

0 0 1.7185e+07 0 3640 - 1.7185e+07 - - 41s

0 0 1.7473e+07 0 3357 - 1.7473e+07 - - 45s

0 0 1.7541e+07 0 3210 - 1.7541e+07 - - 54s

0 0 1.7543e+07 0 3191 - 1.7543e+07 - - 55s

0 0 1.7544e+07 0 3189 - 1.7544e+07 - - 55s

0 0 1.7602e+07 0 3843 - 1.7602e+07 - - 63s

0 0 1.7635e+07 0 4537 - 1.7635e+07 - - 66s

0 0 1.7639e+07 0 4678 - 1.7639e+07 - - 67s

0 0 1.7639e+07 0 4693 - 1.7639e+07 - - 67s

0 0 1.7659e+07 0 4463 - 1.7659e+07 - - 73s

0 0 1.7667e+07 0 4810 - 1.7667e+07 - - 74s

0 0 1.7667e+07 0 4820 - 1.7667e+07 - - 75s

0 0 1.7668e+07 0 4838 - 1.7668e+07 - - 75s

0 0 1.7671e+07 0 4865 - 1.7671e+07 - - 77s

0 0 1.7672e+07 0 4959 - 1.7672e+07 - - 77s

0 0 1.7674e+07 0 4948 - 1.7674e+07 - - 78s

0 0 1.7674e+07 0 4945 - 1.7674e+07 - - 80s

0 2 1.7674e+07 0 4945 - 1.7674e+07 - - 115s

105 113 1.7697e+07 25 4917 - 1.7677e+07 - 37.6 120s

245 266 1.7709e+07 53 4857 - 1.7677e+07 - 23.2 125s

461 480 1.7730e+07 104 4772 - 1.7677e+07 - 16.6 130s

650 670 1.7748e+07 146 4686 - 1.7677e+07 - 14.6 135s

856 892 1.7761e+07 190 4566 - 1.7677e+07 - 13.7 140s

1018 1064 1.7772e+07 225 4517 - 1.7677e+07 - 14.3 146s

1199 1262 1.7786e+07 268 4452 - 1.7677e+07 - 13.8 150s

1372 1420 1.7797e+07 307 4384 - 1.7677e+07 - 14.2 155s

1577 1626 1.7807e+07 358 4324 - 1.7677e+07 - 13.4 160s

1749 1844 1.7818e+07 392 4237 - 1.7677e+07 - 13.3 166s

1906 1993 1.7824e+07 422 4210 - 1.7677e+07 - 13.0 170s

2135 2210 1.7832e+07 465 4188 - 1.7677e+07 - 12.8 176s

2294 2387 1.7843e+07 495 4133 - 1.7677e+07 - 12.8 181s

2473 2564 1.7852e+07 532 4108 - 1.7677e+07 - 12.6 187s

2657 2745 1.7860e+07 569 4042 - 1.7677e+07 - 12.4 192s

2744 2867 1.7861e+07 581 4049 - 1.7677e+07 - 12.2 195s

2998 3182 1.7874e+07 634 3939 - 1.7677e+07 - 12.0 202s

3181 3303 1.7878e+07 666 3877 - 1.7677e+07 - 11.9 206s

3499 3655 1.7888e+07 762 3682 - 1.7677e+07 - 11.5 213s

3654 3865 1.7892e+07 792 3620 - 1.7677e+07 - 11.3 217s

3864 4123 1.7898e+07 851 3470 - 1.7677e+07 - 11.2 222s

4122 4440 1.7906e+07 917 3324 - 1.7677e+07 - 10.9 227s

4439 4691 1.7914e+07 1002 3125 - 1.7677e+07 - 10.6 231s

4690 4973 1.7922e+07 1051 3001 - 1.7677e+07 - 10.4 236s

4972 5264 1.7930e+07 1119 2868 - 1.7677e+07 - 10.2 241s

5266 5266 1.7927e+07 1099 6396 - 1.7677e+07 - 9.9 273s

5267 5267 1.7927e+07 1077 5962 - 1.7677e+07 - 9.9 297s

5268 5268 1.7909e+07 951 4812 - 1.7677e+07 - 9.9 308s

5269 5268 1.7888e+07 763 4177 - 1.7677e+07 - 9.9 312s

5270 5269 1.7941e+07 1197 3210 - 1.7677e+07 - 9.9 317s

5271 5270 1.7795e+07 297 3374 - 1.7677e+07 - 9.9 326s

5272 5270 1.7855e+07 536 3966 - 1.7677e+07 - 9.9 331s

5273 5271 1.7892e+07 835 4568 - 1.7677e+07 - 9.9 336s

5274 5272 1.7703e+07 47 4823 - 1.7677e+07 - 9.9 341s

5278 5274 1.7769e+07 235 4991 - 1.7677e+07 - 9.9 345s

5280 5276 1.7783e+07 259 5006 - 1.7719e+07 - 9.9 400s

5284 5278 1.7763e+07 200 5572 - 1.7762e+07 - 9.9 407s

5285 5279 1.7895e+07 817 5417 - 1.7767e+07 - 9.9 417s

5287 5280 1.7897e+07 821 5506 - 1.7787e+07 - 9.9 420s

5292 5284 1.7797e+07 302 6190 - 1.7791e+07 - 9.9 427s

5293 5284 1.7869e+07 645 5909 - 1.7797e+07 - 9.9 438s

5294 5285 1.7813e+07 378 5963 - 1.7800e+07 - 9.9 440s

5299 5288 1.7806e+07 369 6341 - 1.7803e+07 - 9.9 448s

5300 5289 1.7807e+07 75 6054 - 1.7807e+07 - 9.9 458s

5302 5290 1.7809e+07 8 6149 - 1.7809e+07 - 9.9 460s

5305 5292 1.7809e+07 267 6242 - 1.7809e+07 - 9.9 465s

5306 5293 1.7859e+07 580 6043 - 1.7813e+07 - 9.9 476s

5310 5296 1.7838e+07 491 6264 - 1.7815e+07 - 9.9 480s

5312 5297 1.7931e+07 1109 6124 - 1.7817e+07 - 9.8 496s

5316 5300 1.7819e+07 258 6168 - 1.7819e+07 - 9.8 500s

5318 5301 1.7882e+07 779 6044 - 1.7821e+07 - 9.8 514s

5319 5302 1.7833e+07 470 6110 - 1.7822e+07 - 9.8 515s

5323 5304 1.7934e+07 1140 6272 - 1.7822e+07 - 9.8 521s

5324 5305 1.7823e+07 151 6173 - 1.7823e+07 - 9.8 527s

5327 5307 1.7896e+07 831 6284 - 1.7824e+07 - 9.8 530s

5329 5308 1.7868e+07 602 6168 - 1.7825e+07 - 9.8 540s

5332 5310 1.7926e+07 1081 6288 - 1.7825e+07 - 9.8 545s

5333 5311 1.7830e+07 449 6187 - 1.7826e+07 - 9.8 551s

5336 5313 1.7938e+07 1191 6272 - 1.7826e+07 - 9.8 556s

5337 5314 1.7827e+07 414 6215 - 1.7827e+07 - 9.8 562s

5340 5316 1.7905e+07 870 6256 - 1.7827e+07 - 9.8 567s

5341 5316 1.7895e+07 818 6218 - 1.7827e+07 - 9.8 573s

5344 5318 1.7855e+07 546 6322 - 1.7828e+07 - 9.8 578s

5345 5319 1.7905e+07 896 6286 - 1.7828e+07 - 9.8 584s

5346 5320 1.7887e+07 799 6298 - 1.7828e+07 - 9.8 585s

5349 5322 1.7857e+07 551 6300 - 1.7829e+07 - 9.8 607s

5352 5324 1.7854e+07 539 6394 - 1.7829e+07 - 9.8 624s

5353 5324 1.7844e+07 496 6268 - 1.7829e+07 - 9.8 701s

5355 5326 1.7829e+07 61 6303 - 1.7829e+07 - 9.8 719s

5356 5326 1.7913e+07 1002 6220 - 1.7829e+07 - 9.8 725s

5359 5328 1.7830e+07 256 6315 - 1.7830e+07 - 9.8 734s

5360 5329 1.7935e+07 1142 6321 - 1.7830e+07 - 9.8 735s

5363 5331 1.7830e+07 367 6278 - 1.7830e+07 - 9.8 745s

5366 5333 1.7927e+07 1099 6311 - 1.7830e+07 - 9.7 755s

5368 5334 1.7909e+07 951 6294 - 1.7830e+07 - 9.7 764s

5369 5335 1.7888e+07 763 6332 - 1.7830e+07 - 9.7 765s

5371 5336 1.7830e+07 297 6306 - 1.7830e+07 - 9.7 775s

5373 5338 1.7892e+07 835 6331 - 1.7830e+07 - 9.7 784s

5374 5338 1.7830e+07 47 6330 - 1.7830e+07 - 9.7 788s

5376 5341 1.7876e+07 657 4945 - 1.7830e+07 - 48.2 790s

5378 5342 1.7830e+07 235 6396 - 1.7830e+07 - 48.2 819s

5379 5343 1.7830e+07 255 6283 - 1.7830e+07 - 48.2 846s

5380 5344 1.7830e+07 259 5442 - 1.7830e+07 - 48.2 861s

5381 5344 1.7927e+07 1078 4841 - 1.7830e+07 - 48.1 865s

5383 5346 1.7849e+07 531 3882 - 1.7830e+07 - 48.1 872s

5384 5346 1.7830e+07 200 3708 - 1.7830e+07 - 48.1 877s

5385 5347 1.7895e+07 817 4229 - 1.7830e+07 - 48.1 883s

5386 5348 1.7846e+07 506 4594 - 1.7830e+07 - 48.1 889s

5387 5348 1.7897e+07 821 4721 - 1.7830e+07 - 48.1 893s

5388 5349 1.7875e+07 655 5004 - 1.7830e+07 - 48.1 896s

5390 5350 1.7883e+07 719 5706 - 1.7830e+07 - 48.1 902s

5392 5352 1.7830e+07 302 5988 - 1.7830e+07 - 48.0 905s

5393 5352 1.7869e+07 645 6049 - 1.7830e+07 - 48.0 910s

5394 5353 1.7830e+07 378 6003 - 1.7830e+07 - 48.0 965s

5397 5355 1.7832e+07 353 6025 - 1.7832e+07 - 48.0 979s

5398 5356 1.7839e+07 479 6018 - 1.7832e+07 - 48.0 981s

5400 5357 1.7833e+07 75 6051 - 1.7833e+07 - 48.0 990s

5403 5359 1.7929e+07 1122 6070 - 1.7833e+07 - 47.9 995s

5404 5360 1.7834e+07 246 6035 - 1.7834e+07 - 47.9 1001s

5406 5361 1.7859e+07 580 6086 - 1.7834e+07 - 47.9 1005s

5407 5362 1.7834e+07 418 6052 - 1.7834e+07 - 47.9 1011s

5410 5364 1.7838e+07 491 6115 - 1.7834e+07 - 47.9 1015s

5411 5364 1.7885e+07 731 6054 - 1.7835e+07 - 47.9 1026s

5413 5366 1.7887e+07 772 6105 - 1.7835e+07 - 47.9 1030s

5414 5366 1.7869e+07 645 6068 - 1.7835e+07 - 47.9 1037s

5416 5368 1.7835e+07 258 6092 - 1.7835e+07 - 47.8 1041s

5417 5368 1.7836e+07 340 6124 - 1.7836e+07 - 47.8 1047s

5420 5370 1.7877e+07 681 6190 - 1.7836e+07 - 47.8 1053s

5421 5371 1.7836e+07 247 6116 - 1.7836e+07 - 47.8 1063s

5423 5372 1.7934e+07 1140 6117 - 1.7836e+07 - 47.8 1067s

5424 5373 1.7836e+07 151 6063 - 1.7836e+07 - 47.8 1077s

5427 5375 1.7896e+07 831 6140 - 1.7837e+07 - 47.7 1082s

5428 5376 1.7837e+07 459 6101 - 1.7837e+07 - 47.7 1088s

5430 5377 1.7870e+07 616 6120 - 1.7837e+07 - 47.7 1090s

5432 5378 1.7926e+07 1081 6115 - 1.7837e+07 - 47.7 1099s

5433 5379 1.7837e+07 449 6151 - 1.7837e+07 - 47.7 1100s

5435 5380 1.7837e+07 476 6113 - 1.7837e+07 - 47.7 1109s

5436 5381 1.7938e+07 1191 6142 - 1.7837e+07 - 47.7 1110s

5438 5382 1.7884e+07 735 6123 - 1.7837e+07 - 47.6 1130s

5440 5384 1.7905e+07 870 6162 - 1.7837e+07 - 47.6 1144s

5441 5384 1.7895e+07 818 6101 - 1.7837e+07 - 47.6 1161s

5444 5386 1.7855e+07 546 6106 - 1.7838e+07 - 47.6 1177s

5445 5387 1.7905e+07 896 6102 - 1.7838e+07 - 47.6 1182s

5447 5388 1.7873e+07 616 6114 - 1.7838e+07 - 47.6 1187s

5448 5389 1.7894e+07 811 6112 - 1.7838e+07 - 47.6 1237s

5450 5390 1.7900e+07 847 6134 - 1.7838e+07 - 47.5 1241s

5451 5391 1.7924e+07 1050 6155 - 1.7838e+07 - 47.5 1247s

5452 5392 1.7854e+07 539 6143 - 1.7838e+07 - 47.5 1250s

5453 5392 1.7844e+07 496 6126 - 1.7838e+07 - 47.5 1256s

5455 5394 1.7838e+07 61 6151 - 1.7838e+07 - 47.5 1265s

5457 5395 1.7838e+07 86 6151 - 1.7838e+07 - 47.5 1393s

5458 5399 1.7839e+07 29 6146 - 1.7839e+07 - 65.6 1396s

5496 5426 1.7841e+07 35 6122 - 1.7840e+07 - 65.3 1400s

5541 5481 1.7843e+07 40 6111 - 1.7840e+07 - 64.9 1406s

5599 5532 1.7848e+07 47 6090 - 1.7840e+07 - 64.4 1411s

5685 5588 1.7849e+07 57 6062 - 1.7840e+07 - 63.6 1417s

5725 5613 1.7849e+07 63 6044 - 1.7840e+07 - 63.3 1420s

5800 5669 1.7850e+07 72 6001 - 1.7840e+07 - 62.8 1426s

5883 5724 1.7851e+07 83 5977 - 1.7840e+07 - 62.1 1432s

5927 5755 1.7856e+07 87 5969 - 1.7840e+07 - 61.8 1435s

6018 5820 1.7857e+07 100 5928 - 1.7840e+07 - 61.2 1442s

6068 5856 1.7858e+07 107 5915 - 1.7840e+07 - 60.9 1446s

6121 5893 1.7860e+07 114 5893 - 1.7840e+07 - 60.5 1450s

6175 5929 1.7861e+07 120 5882 - 1.7840e+07 - 60.1 1455s

6285 6004 1.7863e+07 134 5840 - 1.7840e+07 - 59.5 1463s

6341 6047 1.7864e+07 142 5831 - 1.7840e+07 - 59.2 1468s

6403 6090 1.7867e+07 151 5804 - 1.7840e+07 - 58.9 1473s

6466 6139 1.7868e+07 159 5772 - 1.7840e+07 - 58.5 1478s

6536 6186 1.7871e+07 167 5759 - 1.7840e+07 - 58.1 1483s

6607 6236 1.7871e+07 175 5716 - 1.7840e+07 - 57.7 1488s

6680 6300 1.7876e+07 183 5702 - 1.7840e+07 - 57.4 1494s

6769 6348 1.7874e+07 194 5667 - 1.7840e+07 - 56.9 1499s

6846 6402 1.7876e+07 203 5631 - 1.7840e+07 - 56.5 1505s

6926 6454 1.7879e+07 212 5606 - 1.7840e+07 - 56.2 1512s

7005 6521 1.7879e+07 222 5595 - 1.7840e+07 - 55.9 1518s

7098 6584 1.7881e+07 234 5559 - 1.7840e+07 - 55.4 1525s

7192 6647 1.7882e+07 247 5551 - 1.7840e+07 - 54.9 1532s

7286 6713 1.7883e+07 258 5541 - 1.7840e+07 - 54.5 1539s

7384 6782 1.7888e+07 269 5502 - 1.7840e+07 - 54.1 1547s

7485 6856 1.7889e+07 281 5469 - 1.7840e+07 - 53.7 1555s

7593 6934 1.7889e+07 294 5445 - 1.7840e+07 - 53.2 1563s

7707 7020 1.7892e+07 308 5409 - 1.7840e+07 - 52.8 1572s

7831 7109 1.7892e+07 324 5371 - 1.7840e+07 - 52.3 1581s

7961 7196 1.7896e+07 339 5333 - 1.7840e+07 - 51.7 1590s

8092 7295 1.7898e+07 357 5303 - 1.7840e+07 - 51.2 1599s

8234 7393 1.7898e+07 376 5275 - 1.7840e+07 - 50.7 1610s

8380 7498 1.7900e+07 393 5217 - 1.7840e+07 - 50.2 1621s

8533 7606 1.7904e+07 412 5195 - 1.7840e+07 - 49.6 1631s

8692 7713 1.7907e+07 433 5132 - 1.7840e+07 - 49.1 1643s

8852 7817 1.7909e+07 454 5090 - 1.7840e+07 - 48.6 1654s

9010 7950 1.7911e+07 474 5043 - 1.7840e+07 - 48.2 1667s

9195 8075 1.7920e+07 497 5016 - 1.7840e+07 - 47.5 1679s

9384 8222 1.7916e+07 519 4948 - 1.7840e+07 - 47.0 1692s

9594 8336 1.7917e+07 546 4896 - 1.7840e+07 - 46.3 1706s

9778 8486 1.7920e+07 569 4862 - 1.7840e+07 - 46.0 1720s

9991 8634 1.7921e+07 598 4827 - 1.7840e+07 - 45.4 1734s

10210 8791 1.7923e+07 627 4763 - 1.7840e+07 - 44.9 1750s

10442 8949 1.7929e+07 653 4724 - 1.7840e+07 - 44.4 1765s

10678 9129 1.7927e+07 682 4675 - 1.7840e+07 - 43.8 1783s

10936 9283 1.7933e+07 714 4631 - 1.7840e+07 - 43.3 1798s

11176 9459 1.7936e+07 746 4567 - 1.7840e+07 - 42.9 1815s

11432 9647 1.7937e+07 779 4498 - 1.7840e+07 - 42.4 1833s

11706 9844 1.7942e+07 810 4442 - 1.7840e+07 - 41.9 1850s

11994 10013 1.7942e+07 845 4376 - 1.7840e+07 - 41.2 1869s

12259 10193 1.7946e+07 880 4349 - 1.7840e+07 - 40.9 1888s

12527 10391 1.7950e+07 914 4300 - 1.7840e+07 - 40.7 1909s

12815 10591 1.7952e+07 952 4271 - 1.7840e+07 - 40.4 1931s

13111 10839 1.7961e+07 988 4243 - 1.7840e+07 - 40.2 1954s

13457 11068 1.7956e+07 1032 4144 - 1.7840e+07 - 39.7 1977s

13802 11294 1.7960e+07 1076 4104 - 1.7840e+07 - 39.4 2001s

14143 11560 1.7963e+07 1121 4037 - 1.7840e+07 - 39.1 2027s

14522 11835 1.7972e+07 1167 4010 - 1.7840e+07 - 38.8 2053s

14924 12110 1.7968e+07 1214 3943 - 1.7840e+07 - 38.3 2080s

15333 12406 1.7973e+07 1265 3887 - 1.7840e+07 - 37.9 2109s

15765 12741 1.7979e+07 1322 3845 - 1.7840e+07 - 37.4 2138s

16244 13066 1.7985e+07 1382 3735 - 1.7840e+07 - 36.8 2167s

16729 13360 1.7989e+07 1443 3669 - 1.7840e+07 - 36.3 2196s

17184 13665 1.7994e+07 1498 3618 - 1.7840e+07 - 35.9 2224s

17641 13950 1.7997e+07 1558 3566 - 1.7840e+07 - 35.5 2252s

18078 14246 1.8005e+07 1608 3540 - 1.7840e+07 - 35.3 2280s

18520 14552 1.8002e+07 1663 3456 - 1.7840e+07 - 34.9 2307s

18973 14861 1.8006e+07 1720 3393 - 1.7840e+07 - 34.6 2335s

19433 15169 1.8009e+07 1777 3353 - 1.7840e+07 - 34.3 2362s

19895 15500 1.8018e+07 1837 3257 - 1.7840e+07 - 34.0 2389s

20380 15812 1.8019e+07 1897 3196 - 1.7840e+07 - 33.6 2416s

20853 16136 1.8022e+07 1958 3104 - 1.7840e+07 - 33.2 2443s

21335 16474 1.8031e+07 2019 3050 - 1.7840e+07 - 32.8 2928s

21842 16799 1.8029e+07 2081 2989 - 1.7840e+07 - 32.3 2951s

22269 17237 1.8033e+07 2135 2930 - 1.7840e+07 - 32.0 2975s

22707 17652 1.8042e+07 2186 2870 - 1.7840e+07 - 31.7 2998s

23124 18067 1.8043e+07 2239 2843 - 1.7840e+07 - 31.4 3021s

23543 18507 1.8049e+07 2291 2811 - 1.7840e+07 - 31.2 3044s

23987 18928 1.8055e+07 2346 2771 - 1.7840e+07 - 30.8 3068s

24408 19355 1.8054e+07 2396 2715 - 1.7840e+07 - 30.5 3091s

24837 19793 1.8060e+07 2454 2659 - 1.7840e+07 - 30.2 3115s

25281 20219 1.8066e+07 2511 2621 - 1.7840e+07 - 29.9 3138s

25713 20656 1.8072e+07 2567 2563 - 1.7840e+07 - 29.7 3162s

26156 21107 1.8079e+07 2623 2509 - 1.7840e+07 - 29.4 3185s

26611 21576 1.8083e+07 2681 2466 - 1.7840e+07 - 29.2 3208s

27084 22021 1.8088e+07 2747 2386 - 1.7840e+07 - 28.9 3232s

27531 22469 1.8091e+07 2802 2320 - 1.7840e+07 - 28.6 3255s

27979 22915 1.8094e+07 2862 2271 - 1.7840e+07 - 28.4 3278s

28429 23391 1.8101e+07 2921 2186 - 1.7840e+07 - 28.2 3301s

28909 23875 infeasible 2976 - 1.7840e+07 - 27.9 3323s

29395 24363 1.8117e+07 3042 2067 - 1.7840e+07 - 27.7 3346s

29891 24821 1.8121e+07 3108 2047 - 1.7840e+07 - 27.4 3368s

30353 25301 1.8129e+07 3167 1974 - 1.7840e+07 - 27.2 3390s

30837 25790 1.8136e+07 3228 1923 - 1.7840e+07 - 27.0 3413s

31342 26246 1.8140e+07 3297 1870 - 1.7840e+07 - 26.7 3435s

31798 26730 1.8144e+07 3359 1835 - 1.7840e+07 - 26.5 3461s

32288 27187 1.8155e+07 3431 1758 - 1.7840e+07 - 26.3 3483s

32747 27658 1.8164e+07 3495 1721 - 1.7840e+07 - 26.1 3504s

33220 28108 1.8168e+07 3566 1668 - 1.7840e+07 - 26.0 3525s

33678 28538 1.8176e+07 3625 1634 - 1.7840e+07 - 25.8 3546s

34112 28984 1.8177e+07 3680 1556 - 1.7840e+07 - 25.6 3566s

34566 29406 1.8186e+07 3743 1490 - 1.7840e+07 - 25.4 3586s

34992 29821 1.8193e+07 3811 1398 - 1.7840e+07 - 25.3 3607s

35413 30261 1.8198e+07 3870 1361 - 1.7840e+07 - 25.1 3627s

35859 30713 1.8204e+07 3935 1345 - 1.7840e+07 - 25.0 3647s

36315 31159 1.8214e+07 3995 1338 - 1.7840e+07 - 24.8 3668s

36783 31646 1.8219e+07 4064 1294 - 1.7840e+07 - 24.7 3688s

37274 32014 1.8224e+07 4135 1234 - 1.7840e+07 - 24.5 3723s

37654 32512 1.8239e+07 4200 1200 - 1.7840e+07 - 24.4 3743s

38162 33032 1.8246e+07 4268 1150 - 1.7840e+07 - 24.2 3763s

38686 33507 1.8256e+07 4344 1082 - 1.7840e+07 - 24.0 3783s

39167 34015 1.8262e+07 4404 1051 - 1.7840e+07 - 23.9 3803s

39681 34504 1.8280e+07 4470 985 - 1.7840e+07 - 23.7 3823s

40178 34979 1.8281e+07 4538 945 - 1.7840e+07 - 23.6 3842s

40655 35465 1.8287e+07 4601 907 - 1.7840e+07 - 23.5 3861s

41145 35940 1.8295e+07 4661 869 - 1.7840e+07 - 23.3 3879s

41624 36443 1.8299e+07 4726 833 - 1.7840e+07 - 23.2 3898s

42135 36988 1.8306e+07 4800 763 - 1.7840e+07 - 23.1 3922s

42688 37408 1.8321e+07 4888 714 - 1.7840e+07 - 22.9 3941s

43108 37817 1.8327e+07 4951 664 - 1.7840e+07 - 22.8 3959s

43523 38113 1.8337e+07 5011 635 - 1.7840e+07 - 22.8 3988s

43825 38573 1.8342e+07 5068 604 - 1.7840e+07 - 22.7 4008s

44293 39025 1.8361e+07 5117 599 - 1.7840e+07 - 22.6 4028s

44751 39523 1.8360e+07 5169 563 - 1.7840e+07 - 22.6 4049s

45259 40005 1.8375e+07 5225 522 - 1.7840e+07 - 22.5 4069s

45741 40523 1.8399e+07 5281 483 - 1.7840e+07 - 22.5 4088s

46265 41027 1.8440e+07 5353 458 - 1.7840e+07 - 22.4 4107s

46769 41490 1.8494e+07 5422 428 - 1.7840e+07 - 22.3 4125s

47232 41878 1.8516e+07 5484 373 - 1.7840e+07 - 22.3 4143s

47620 42186 1.8620e+07 5528 379 - 1.7840e+07 - 22.4 4161s

47944 42560 1.8757e+07 5567 384 - 1.7840e+07 - 22.6 4180s

48342 42957 1.8859e+07 5618 365 - 1.7840e+07 - 22.7 4200s

48773 43377 infeasible 5670 - 1.7840e+07 - 22.8 4234s

49213 43782 infeasible 5695 - 1.7840e+07 - 23.6 4256s

49668 44163 1.8936e+07 5757 272 - 1.7840e+07 - 23.6 4276s

50093 44477 1.8955e+07 5806 235 - 1.7840e+07 - 23.7 4297s

50511 44678 1.8964e+07 5815 224 - 1.7840e+07 - 23.8 4322s

50798 44882 infeasible 5810 - 1.7841e+07 - 24.0 4352s

51100 45149 1.7843e+07 40 6118 - 1.7841e+07 - 25.0 4376s

51451 45476 1.7849e+07 64 6040 - 1.7841e+07 - 25.2 4401s

51872 45782 1.7856e+07 85 5953 - 1.7841e+07 - 25.2 4426s

52272 45872 1.7862e+07 126 5834 - 1.7841e+07 - 25.2 4507s

52462 46218 1.7865e+07 132 5823 - 1.7841e+07 - 25.2 4542s

52808 46664 1.7867e+07 162 5746 - 1.7841e+07 - 25.2 4584s

52996 46664 1.7862e+07 115 5843 - 1.7841e+07 - 25.2 4585s

53254 47110 1.7872e+07 186 5702 - 1.7841e+07 - 25.2 4627s

53700 47603 1.7878e+07 218 5659 - 1.7841e+07 - 25.2 4670s

54193 48061 1.7880e+07 261 5506 - 1.7841e+07 - 25.2 4711s

54651 48491 1.7882e+07 288 5437 - 1.7841e+07 - 25.1 4751s

55081 48927 1.7885e+07 307 5390 - 1.7841e+07 - 25.1 4791s

55517 49401 1.7888e+07 329 5360 - 1.7841e+07 - 25.0 4832s

55991 49893 1.7891e+07 362 5298 - 1.7841e+07 - 25.0 4873s

56483 50366 1.7894e+07 401 5198 - 1.7841e+07 - 24.9 4908s

56956 50850 1.7896e+07 415 5129 - 1.7841e+07 - 24.8 4942s

57440 51340 1.7901e+07 446 5120 - 1.7841e+07 - 24.8 4977s

57930 51782 1.7902e+07 466 5040 - 1.7841e+07 - 24.7 5011s

58372 52261 1.7905e+07 488 5001 - 1.7841e+07 - 24.6 5045s

58851 52739 1.7907e+07 516 4924 - 1.7841e+07 - 24.6 5079s

59335 53209 1.7910e+07 546 4862 - 1.7841e+07 - 24.5 5112s

59805 53649 1.7911e+07 565 4826 - 1.7841e+07 - 24.5 5146s

60245 54129 1.7913e+07 582 4769 - 1.7841e+07 - 24.5 5179s

60725 54648 1.7914e+07 592 4751 - 1.7841e+07 - 24.4 5213s

61244 55170 1.7917e+07 603 4717 - 1.7841e+07 - 24.3 5246s

61768 55639 1.7920e+07 640 4653 - 1.7841e+07 - 24.2 5279s

62237 56133 1.7922e+07 663 4599 - 1.7841e+07 - 24.1 5312s

62731 56550 1.7924e+07 692 4528 - 1.7841e+07 - 24.0 5343s

63148 56985 1.7925e+07 713 4475 - 1.7841e+07 - 24.0 5375s

63583 57409 1.7927e+07 733 4434 - 1.7841e+07 - 24.0 5407s

64009 57838 1.7929e+07 748 4431 - 1.7841e+07 - 24.0 5439s

64438 58324 1.7930e+07 770 4409 - 1.7841e+07 - 23.9 5472s

64938 58798 1.7931e+07 793 4377 - 1.7841e+07 - 23.8 5504s

65412 59282 1.7932e+07 817 4358 - 1.7841e+07 - 23.8 5536s

65900 59725 1.7935e+07 852 4266 - 1.7841e+07 - 23.7 5567s

66349 60162 1.7936e+07 872 4224 - 1.7841e+07 - 23.6 5598s

66788 60634 1.7936e+07 900 4154 - 1.7841e+07 - 23.6 5629s

67097 60634 1.8092e+07 3200 1604 - 1.7841e+07 - 23.6 5630s

67264 61106 1.7940e+07 925 4136 - 1.7841e+07 - 23.5 5660s

67736 61547 1.7942e+07 954 4089 - 1.7841e+07 - 23.5 5692s

68177 62017 1.7943e+07 979 4046 - 1.7841e+07 - 23.4 5723s

68647 62508 1.7944e+07 998 4000 - 1.7841e+07 - 23.4 5754s

69140 62937 1.7945e+07 1020 3989 - 1.7841e+07 - 23.3 5785s

69569 63428 1.7949e+07 1041 3963 - 1.7841e+07 - 23.3 5816s

70066 63899 1.7950e+07 1065 3974 - 1.7841e+07 - 23.2 5847s

70539 64373 1.7952e+07 1100 3967 - 1.7841e+07 - 23.1 5878s

71013 64757 1.7952e+07 1135 3918 - 1.7841e+07 - 23.1 5951s

71397 65245 1.7953e+07 1162 3888 - 1.7841e+07 - 23.0 5983s

71889 65728 1.7954e+07 1181 3870 - 1.7841e+07 - 22.9 6014s

72380 66226 1.7957e+07 1208 3843 - 1.7841e+07 - 22.9 6045s

72882 66704 1.7957e+07 1247 3811 - 1.7841e+07 - 22.8 6077s

73362 67167 1.7962e+07 1278 3774 - 1.7841e+07 - 22.7 6109s

73825 67635 1.7965e+07 1301 3734 - 1.7841e+07 - 22.7 6138s

74293 68059 1.7962e+07 1323 3683 - 1.7841e+07 - 22.6 6167s

74719 68478 1.7964e+07 1357 3681 - 1.7841e+07 - 22.6 6195s

75138 68962 1.7967e+07 1373 3658 - 1.7841e+07 - 22.6 6225s

75622 69420 1.7967e+07 1389 3626 - 1.7841e+07 - 22.5 6253s

76088 69859 1.7975e+07 1403 3616 - 1.7841e+07 - 22.4 6281s

76527 70293 1.7969e+07 1415 3599 - 1.7841e+07 - 22.4 6310s

76965 70732 1.7970e+07 1433 3563 - 1.7841e+07 - 22.3 6338s

77408 71186 1.7973e+07 1465 3535 - 1.7841e+07 - 22.3 6367s

77862 71613 1.7973e+07 1476 3528 - 1.7841e+07 - 22.3 6395s

78289 72076 1.7979e+07 1485 3521 - 1.7841e+07 - 22.2 6424s

78752 72541 1.7976e+07 1507 3500 - 1.7841e+07 - 22.2 6453s

79219 72993 1.7978e+07 1525 3487 - 1.7841e+07 - 22.2 6481s

79673 73412 1.7979e+07 1533 3482 - 1.7841e+07 - 22.1 6509s

80092 73835 1.7980e+07 1569 3466 - 1.7841e+07 - 22.1 6538s

80515 74333 1.7982e+07 1586 3430 - 1.7841e+07 - 22.1 6566s

81015 74794 1.7983e+07 1607 3391 - 1.7841e+07 - 22.0 6595s

81482 75240 1.7985e+07 1635 3377 - 1.7841e+07 - 22.0 6623s

81940 75712 1.7986e+07 1650 3355 - 1.7841e+07 - 21.9 6651s

82422 76153 1.7987e+07 1661 3341 - 1.7841e+07 - 21.9 6679s

82863 76601 1.7996e+07 1673 3327 - 1.7841e+07 - 21.9 6707s

83311 77086 1.7990e+07 1689 3305 - 1.7841e+07 - 21.8 6735s

83798 77587 1.7992e+07 1707 3297 - 1.7841e+07 - 21.8 6767s

84301 78030 1.7994e+07 1750 3211 - 1.7841e+07 - 21.7 6794s

84746 78440 1.7995e+07 1768 3197 - 1.7841e+07 - 21.6 6821s

85156 78848 1.7996e+07 1781 3191 - 1.7841e+07 - 21.6 6848s

85566 79263 1.7998e+07 1806 3153 - 1.7841e+07 - 21.6 6876s

85981 79724 1.8001e+07 1822 3144 - 1.7841e+07 - 21.6 6904s

86444 80160 1.8002e+07 1834 3142 - 1.7841e+07 - 21.5 6932s

86880 80625 1.8007e+07 1867 3120 - 1.7841e+07 - 21.5 6960s

87345 80926 1.8007e+07 1895 3087 - 1.7841e+07 - 21.4 6994s

H87601 75687 1.832131e+07 1.7841e+07 2.62% 21.4 6997s

Cutting planes:

Learned: 260

Gomory: 344

Implied bound: 2492

MIR: 4111

Flow cover: 11206

RLT: 969

Relax-and-lift: 201

Explored 87646 nodes (2015225 simplex iterations) in 7000.83 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 1.83213e+07

Optimal solution found (tolerance 5.00e-02)

Best objective 1.832131041163e+07, best bound 1.784051671737e+07, gap 2.6242%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\12.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 257.0589078621045 : 3000.0

2 : None : 0.010000000000000007 : 0.01

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 257.0589078621045 : 3000.0

2 : None : 0.010000000000000007 : 0.01

Terminado - Guardado de gráficos

simulacion 12 Terminada

Parameter OutputFlag unchanged

Value: 1 Min: 0 Max: 1 Default: 1

Changed value of parameter LogFile to C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\13.txt

Prev: Default:

Solver log file: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\13.txt

Changed value of parameter mipgap to 0.05

Prev: 0.0001 Min: 0.0 Max: inf Default: 0.0001

Gurobi Optimizer version 9.1.2 build v9.1.2rc0 (win64)

Thread count: 4 physical cores, 8 logical processors, using up to 8 threads

Optimize a model with 148922 rows, 113880 columns and 359159 nonzeros

Model fingerprint: 0x24bde03e

Variable types: 87600 continuous, 26280 integer (26280 binary)

Coefficient statistics:

Matrix range [3e-05, 1e+01]

Objective range [1e+01, 2e+03]

Bounds range [1e+00, 1e+00]

RHS range [2e-04, 3e+03]

Presolve removed 60032 rows and 42099 columns

Presolve time: 1.11s

Presolved: 88890 rows, 71781 columns, 248152 nonzeros

Variable types: 50573 continuous, 21208 integer (21208 binary)

Deterministic concurrent LP optimizer: primal and dual simplex

Showing first log only...

Concurrent spin time: 0.00s

Solved with dual simplex

Root relaxation: objective 1.656491e+07, 35065 iterations, 1.56 seconds

Nodes | Current Node | Objective Bounds | Work

Expl Unexpl | Obj Depth IntInf | Incumbent BestBd Gap | It/Node Time

0 0 1.6565e+07 0 5473 - 1.6565e+07 - - 9s

0 0 1.6986e+07 0 4748 - 1.6986e+07 - - 26s

0 0 1.7412e+07 0 4281 - 1.7412e+07 - - 32s

0 0 1.7595e+07 0 4320 - 1.7595e+07 - - 34s

0 0 1.7606e+07 0 4487 - 1.7606e+07 - - 36s

0 0 1.7607e+07 0 4448 - 1.7607e+07 - - 36s

0 0 1.7607e+07 0 4449 - 1.7607e+07 - - 37s

0 0 1.7808e+07 0 4527 - 1.7808e+07 - - 39s

0 0 1.7905e+07 0 4236 - 1.7905e+07 - - 44s

0 0 1.7917e+07 0 4471 - 1.7917e+07 - - 46s

0 0 1.7917e+07 0 4576 - 1.7917e+07 - - 47s

0 0 1.7917e+07 0 4614 - 1.7917e+07 - - 47s

0 0 1.7956e+07 0 4267 - 1.7956e+07 - - 53s

0 0 1.7961e+07 0 4423 - 1.7961e+07 - - 59s

0 0 1.7961e+07 0 4497 - 1.7961e+07 - - 59s

0 0 1.7973e+07 0 4478 - 1.7973e+07 - - 66s

0 0 1.7974e+07 0 4555 - 1.7974e+07 - - 66s

0 0 1.7974e+07 0 4621 - 1.7974e+07 - - 67s

0 0 1.7977e+07 0 4591 - 1.7977e+07 - - 68s

0 0 1.7977e+07 0 4586 - 1.7977e+07 - - 70s

0 2 1.7977e+07 0 4586 - 1.7977e+07 - - 86s

141 146 1.8000e+07 33 4554 - 1.7977e+07 - 29.3 90s

350 359 1.8023e+07 84 4473 - 1.7977e+07 - 16.2 95s

604 634 1.8039e+07 140 4381 - 1.7977e+07 - 12.5 100s

894 932 1.8063e+07 214 4271 - 1.7977e+07 - 10.8 105s

1111 1157 1.8075e+07 261 4198 - 1.7977e+07 - 10.3 110s

1396 1426 1.8089e+07 328 4085 - 1.7977e+07 - 9.7 115s

1614 1691 1.8099e+07 378 3963 - 1.7977e+07 - 9.6 120s

1868 1919 1.8112e+07 435 3862 - 1.7977e+07 - 9.5 126s

2037 2102 1.8117e+07 476 3787 - 1.7977e+07 - 9.2 130s

2256 2363 1.8127e+07 526 3698 - 1.7977e+07 - 9.2 135s

2584 2682 1.8130e+07 597 3567 - 1.7977e+07 - 8.8 142s

2789 2889 1.8133e+07 646 3468 - 1.7977e+07 - 8.5 146s

2999 3129 1.8137e+07 694 3388 - 1.7977e+07 - 8.3 151s

3300 3457 1.8142e+07 765 3191 - 1.7977e+07 - 8.0 156s

3621 3920 1.8147e+07 835 3015 - 1.7977e+07 - 7.8 163s

3919 4087 1.8154e+07 907 2819 - 1.7977e+07 - 7.7 166s

4366 4562 1.8165e+07 1019 2554 - 1.7977e+07 - 7.5 173s

4561 4748 1.8169e+07 1061 2478 - 1.7977e+07 - 7.4 176s

4923 5086 1.8179e+07 1139 2288 - 1.7977e+07 - 7.4 183s

5085 5239 1.8186e+07 1173 2239 - 1.7977e+07 - 7.4 186s

5241 5241 1.8004e+07 48 5206 - 1.7977e+07 - 7.4 215s

5242 5242 1.7995e+07 24 4801 - 1.7977e+07 - 7.4 238s

5243 5243 1.8058e+07 201 4014 - 1.7977e+07 - 7.4 244s

5244 5243 1.8144e+07 806 3647 - 1.7977e+07 - 7.4 249s

5245 5244 1.8145e+07 809 3339 - 1.7977e+07 - 7.4 253s

5246 5245 1.8128e+07 558 4147 - 1.7985e+07 - 7.4 260s

5250 5247 1.8127e+07 548 4366 - 1.7987e+07 - 7.4 266s

5251 5248 1.8130e+07 610 4251 - 1.8022e+07 - 7.4 285s

5254 5250 1.8173e+07 1101 4871 - 1.8037e+07 - 7.4 290s

5258 5253 1.8102e+07 388 4712 - 1.8063e+07 - 7.4 303s

5260 5254 1.8166e+07 1032 4891 - 1.8072e+07 - 7.4 306s

5264 5257 1.8154e+07 918 5265 - 1.8073e+07 - 7.4 311s

5265 5257 1.8105e+07 392 5008 - 1.8087e+07 - 7.3 349s

5266 5258 1.8127e+07 541 5004 - 1.8091e+07 - 7.3 351s

5271 5261 1.8160e+07 958 5464 - 1.8096e+07 - 7.3 355s

5274 5263 1.8162e+07 973 5097 - 1.8105e+07 - 7.3 368s

5276 5265 1.8112e+07 377 5131 - 1.8112e+07 - 7.3 370s

5282 5269 1.8116e+07 137 5449 - 1.8116e+07 - 7.3 375s

5285 5271 1.8174e+07 1094 5455 - 1.8116e+07 - 7.3 380s

5286 5271 1.8119e+07 120 5242 - 1.8119e+07 - 7.3 389s

5287 5272 1.8121e+07 217 5240 - 1.8121e+07 - 7.3 390s

5291 5275 1.8147e+07 858 5432 - 1.8122e+07 - 7.3 395s

5294 5277 1.8125e+07 304 5281 - 1.8125e+07 - 7.3 408s

5296 5278 1.8127e+07 523 5326 - 1.8126e+07 - 7.3 411s

5300 5281 1.8126e+07 4 5434 - 1.8126e+07 - 7.3 416s

5301 5281 1.8133e+07 630 5276 - 1.8127e+07 - 7.3 426s

5306 5285 1.8171e+07 1078 5399 - 1.8128e+07 - 7.3 433s

5307 5285 1.8129e+07 237 5247 - 1.8129e+07 - 7.3 443s

5309 5287 1.8178e+07 1134 5340 - 1.8129e+07 - 7.3 445s

5312 5289 1.8183e+07 1159 5293 - 1.8131e+07 - 7.3 458s

5314 5290 1.8131e+07 476 5343 - 1.8131e+07 - 7.3 460s

5318 5293 1.8132e+07 26 5266 - 1.8132e+07 - 7.3 474s

5319 5293 1.8132e+07 616 5326 - 1.8132e+07 - 7.3 475s

5323 5296 1.8149e+07 858 5366 - 1.8132e+07 - 7.3 480s

5324 5297 1.8155e+07 909 5270 - 1.8132e+07 - 7.3 485s

5328 5299 1.8166e+07 1035 5358 - 1.8132e+07 - 7.3 490s

5329 5300 1.8132e+07 371 5313 - 1.8132e+07 - 7.3 495s

5333 5303 1.8133e+07 604 5343 - 1.8133e+07 - 7.3 500s

5334 5303 1.8167e+07 1049 5262 - 1.8133e+07 - 7.3 506s

5337 5305 1.8133e+07 448 5312 - 1.8133e+07 - 7.3 510s

5338 5306 1.8133e+07 613 5283 - 1.8133e+07 - 7.2 539s

5339 5307 1.8144e+07 783 5327 - 1.8133e+07 - 7.2 540s

5341 5308 1.8133e+07 48 5327 - 1.8133e+07 - 7.2 554s

5342 5309 1.8133e+07 24 5274 - 1.8133e+07 - 7.2 608s

5345 5311 1.8145e+07 809 5307 - 1.8133e+07 - 7.2 624s

5346 5311 1.8133e+07 558 5312 - 1.8133e+07 - 7.2 629s

5347 5312 1.8133e+07 426 5318 - 1.8133e+07 - 7.2 630s

5350 5314 1.8133e+07 548 5302 - 1.8133e+07 - 7.2 639s

5352 5315 1.8133e+07 44 5312 - 1.8133e+07 - 7.2 640s

5354 5317 1.8173e+07 1101 5289 - 1.8133e+07 - 7.2 648s

5356 5318 1.8148e+07 877 5310 - 1.8133e+07 - 7.2 650s

5358 5319 1.8133e+07 388 5296 - 1.8133e+07 - 7.2 658s

5360 5321 1.8166e+07 1032 5301 - 1.8133e+07 - 7.2 662s

5361 5321 1.8144e+07 804 5282 - 1.8133e+07 - 7.2 667s

5363 5323 1.8133e+07 222 5305 - 1.8133e+07 - 7.2 670s

5364 5323 1.8154e+07 918 5289 - 1.8133e+07 - 7.2 675s

5367 5325 1.8133e+07 371 5301 - 1.8133e+07 - 7.2 684s

5368 5326 1.8135e+07 671 5305 - 1.8133e+07 - 7.2 687s

5369 5327 1.8140e+07 734 5303 - 1.8133e+07 - 7.2 693s

5370 5327 1.8133e+07 158 5303 - 1.8133e+07 - 7.2 696s

5374 5331 1.8162e+07 973 5207 - 1.8133e+07 - 46.9 724s

5375 5332 1.8133e+07 470 5118 - 1.8133e+07 - 46.8 750s

5376 5333 1.8133e+07 377 4531 - 1.8133e+07 - 46.8 760s

5378 5334 1.8195e+07 1204 3819 - 1.8133e+07 - 46.8 765s

5380 5335 1.8176e+07 1116 3562 - 1.8133e+07 - 46.8 770s

5383 5337 1.8133e+07 223 4547 - 1.8133e+07 - 46.8 778s

5384 5338 1.8156e+07 919 4831 - 1.8133e+07 - 46.8 780s

5389 5341 1.8136e+07 684 4949 - 1.8133e+07 - 46.7 787s

5390 5342 1.8143e+07 792 5011 - 1.8134e+07 - 46.7 816s

5393 5344 1.8149e+07 887 5067 - 1.8134e+07 - 46.7 821s

5394 5345 1.8135e+07 304 5040 - 1.8135e+07 - 46.7 831s

5398 5347 1.8158e+07 937 5065 - 1.8135e+07 - 46.6 835s

5399 5348 1.8150e+07 891 5077 - 1.8136e+07 - 46.6 841s

5403 5351 1.8136e+07 17 5141 - 1.8136e+07 - 46.6 846s

5404 5351 1.8191e+07 1193 5094 - 1.8137e+07 - 46.6 855s

5408 5354 1.8137e+07 59 5159 - 1.8137e+07 - 46.6 860s

5409 5355 1.8178e+07 1134 5142 - 1.8138e+07 - 46.5 870s

5413 5357 1.8168e+07 1049 5228 - 1.8138e+07 - 46.5 875s

5414 5358 1.8138e+07 476 5133 - 1.8138e+07 - 46.5 885s

5418 5361 1.8139e+07 26 5234 - 1.8139e+07 - 46.5 892s

5419 5361 1.8139e+07 616 5152 - 1.8139e+07 - 46.5 903s

5422 5363 1.8140e+07 589 5235 - 1.8140e+07 - 46.4 905s

5425 5365 1.8140e+07 742 5164 - 1.8140e+07 - 46.4 919s

5426 5366 1.8140e+07 63 5200 - 1.8140e+07 - 46.4 920s

5430 5369 1.8173e+07 1107 5231 - 1.8141e+07 - 46.4 925s

5431 5369 1.8141e+07 9 5168 - 1.8141e+07 - 46.4 931s

5435 5372 1.8165e+07 1027 5222 - 1.8141e+07 - 46.3 936s

5436 5373 1.8185e+07 1171 5178 - 1.8141e+07 - 46.3 964s

5438 5374 1.8141e+07 613 5218 - 1.8141e+07 - 46.3 965s

5441 5376 1.8142e+07 48 5165 - 1.8142e+07 - 46.3 974s

5442 5377 1.8142e+07 24 5191 - 1.8142e+07 - 46.3 975s

5446 5379 1.8142e+07 558 5178 - 1.8142e+07 - 46.2 989s

5448 5381 1.8162e+07 988 5225 - 1.8142e+07 - 46.2 990s

5451 5383 1.8142e+07 610 5227 - 1.8142e+07 - 46.2 999s

5452 5383 1.8142e+07 44 5216 - 1.8142e+07 - 46.2 1000s

5455 5385 1.8169e+07 1060 5229 - 1.8142e+07 - 46.2 1018s

5458 5387 1.8142e+07 388 5254 - 1.8142e+07 - 46.1 1032s

5459 5388 1.8162e+07 981 5217 - 1.8142e+07 - 46.1 1046s

5462 5390 1.8142e+07 335 5218 - 1.8142e+07 - 46.1 1059s

5463 5391 1.8143e+07 222 5200 - 1.8143e+07 - 46.1 1065s

5467 5393 1.8143e+07 371 5219 - 1.8143e+07 - 46.1 1070s

5468 5394 1.8143e+07 671 5210 - 1.8143e+07 - 46.0 1075s

5471 5396 1.8160e+07 958 5227 - 1.8143e+07 - 46.0 1080s

5472 5397 1.8143e+07 82 5222 - 1.8143e+07 - 46.0 1090s

5476 5399 1.8143e+07 377 5227 - 1.8143e+07 - 46.0 1099s

5477 5400 1.8143e+07 176 5229 - 1.8143e+07 - 46.0 1100s

5480 5402 1.8176e+07 1116 5232 - 1.8143e+07 - 45.9 1109s

5481 5403 1.8166e+07 1023 5229 - 1.8143e+07 - 45.9 1110s

5484 5405 1.8156e+07 919 5226 - 1.8143e+07 - 45.9 1118s

5485 5405 1.8174e+07 1094 5224 - 1.8143e+07 - 45.9 1122s

5486 5406 1.8143e+07 120 5221 - 1.8143e+07 - 45.9 1149s

5487 5407 1.8143e+07 217 5223 - 1.8143e+07 - 45.9 1152s

5488 5407 1.8143e+07 670 5217 - 1.8143e+07 - 45.9 1162s

5489 5408 1.8143e+07 684 5220 - 1.8143e+07 - 45.9 1165s

5490 5409 1.8143e+07 792 5226 - 1.8143e+07 - 45.9 1170s

5492 5410 1.8192e+07 1197 5228 - 1.8143e+07 - 45.8 1179s

5493 5411 1.8149e+07 887 5228 - 1.8143e+07 - 45.8 1183s

5495 5413 1.8143e+07 613 4586 - 1.8143e+07 - 77.1 1185s

5497 5414 1.8143e+07 478 5207 - 1.8143e+07 - 77.1 1216s

5498 5415 1.8158e+07 937 5171 - 1.8143e+07 - 77.1 1244s

5499 5416 1.8150e+07 891 4564 - 1.8143e+07 - 77.1 1252s

5500 5416 1.8143e+07 4 4139 - 1.8143e+07 - 77.1 1255s

5502 5418 1.8143e+07 790 3637 - 1.8143e+07 - 77.0 1260s

5504 5419 1.8191e+07 1193 3864 - 1.8143e+07 - 77.0 1266s

5506 5420 1.8171e+07 1078 4324 - 1.8143e+07 - 77.0 1271s

5509 5422 1.8178e+07 1134 5007 - 1.8143e+07 - 76.9 1275s

5512 5424 1.8183e+07 1159 5033 - 1.8143e+07 - 76.9 1280s

5513 5425 1.8168e+07 1049 5007 - 1.8144e+07 - 76.9 1310s

5516 5427 1.8146e+07 818 5037 - 1.8144e+07 - 76.8 1315s

5517 5428 1.8144e+07 438 5057 - 1.8144e+07 - 76.8 1326s

5521 5430 1.8145e+07 386 5080 - 1.8145e+07 - 76.8 1330s

5522 5431 1.8145e+07 589 5061 - 1.8145e+07 - 76.8 1336s

5526 5434 1.8145e+07 63 5088 - 1.8145e+07 - 76.7 1341s

5527 5434 1.8145e+07 467 5041 - 1.8145e+07 - 76.7 1351s

5530 5436 1.8173e+07 1107 5090 - 1.8145e+07 - 76.6 1355s

5531 5437 1.8145e+07 9 5067 - 1.8145e+07 - 76.6 1361s

5534 5439 1.8167e+07 1049 5108 - 1.8145e+07 - 76.6 1365s

5535 5440 1.8165e+07 1027 5095 - 1.8146e+07 - 76.6 1375s

5539 5442 1.8146e+07 783 5076 - 1.8146e+07 - 76.5 1385s

5543 5445 1.8146e+07 201 5102 - 1.8146e+07 - 76.5 1391s

5544 5446 1.8147e+07 806 5078 - 1.8147e+07 - 76.5 1397s

5548 5448 1.8162e+07 988 5122 - 1.8147e+07 - 76.4 1402s

5549 5449 1.8147e+07 592 5046 - 1.8147e+07 - 76.4 1407s

5553 5452 1.8147e+07 316 5093 - 1.8147e+07 - 76.3 1412s

5554 5452 1.8173e+07 1101 5069 - 1.8147e+07 - 76.3 1417s

5557 5454 1.8147e+07 151 5100 - 1.8147e+07 - 76.3 1421s

5558 5455 1.8147e+07 388 5105 - 1.8147e+07 - 76.3 1427s

5561 5457 1.8147e+07 804 5110 - 1.8147e+07 - 76.2 1431s

5562 5458 1.8147e+07 335 5052 - 1.8147e+07 - 76.2 1436s

5564 5459 1.8154e+07 918 5098 - 1.8147e+07 - 76.2 1440s

5565 5460 1.8147e+07 392 5089 - 1.8147e+07 - 76.2 1446s

H 5567 5186 1.858987e+07 1.8147e+07 2.38% 76.1 1475s

Cutting planes:

Learned: 206

Gomory: 434

Cover: 34

Implied bound: 947

MIR: 3635

StrongCG: 1

Flow cover: 8606

Zero half: 1

RLT: 705

Relax-and-lift: 234

Explored 5567 nodes (638024 simplex iterations) in 1475.76 seconds

Thread count was 8 (of 8 available processors)

Solution count 1: 1.85899e+07

Optimal solution found (tolerance 5.00e-02)

Warning: max constraint violation (2.1034e-06) exceeds tolerance

Best objective 1.858987329937e+07, best bound 1.814744363128e+07, gap 2.3799%

Changed value of parameter LogFile to

Prev: C:\Users\Luis Fdo Baquero B\Documents\09. Implementacion\dimensionamiento\_microrred\src\log\_opt\13.txt Default:

El programa 'Dimensionamiento de microrredes' es: optimal

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 248.74838054897342 : 3000.0

2 : None : 0.07000000000000103 : 0.07

max\_ciclos\_carga\_descarga\_lpsp : Size=2

Key : Lower : Body : Upper

1 : None : 248.74838054897342 : 3000.0

2 : None : 0.07000000000000103 : 0.07

Terminado - Guardado de gráficos

simulacion 13 Terminada