V5.4 engine log

No value after 40.06.94

Tried aggregator 1 time.

MIP Presolve eliminated 1022 rows and 3701 columns.

MIP Presolve modified 336 coefficients.

Reduced MIP has 7212 rows, 12100 columns, and 50217 nonzeros.

Reduced MIP has 12100 binaries, 0 generals, 0 SOSs, and 0 indicators.

Presolve time = 0.05 sec. (53.18 ticks)

Probing fixed 253 vars, tightened 0 bounds.

Probing time = 0.11 sec. (46.14 ticks)

Tried aggregator 1 time.

MIP Presolve eliminated 253 rows and 253 columns.

Reduced MIP has 6959 rows, 11847 columns, and 48754 nonzeros.

Reduced MIP has 11847 binaries, 0 generals, 0 SOSs, and 0 indicators.

Presolve time = 0.05 sec. (46.26 ticks)

Probing time = 0.02 sec. (5.68 ticks)

Clique table members: 29360.

MIP emphasis: balance optimality and feasibility.

MIP search method: dynamic search.

Parallel mode: deterministic, using up to 8 threads.

Root relaxation solution time = 0.88 sec. (675.48 ticks)

Nodes Cuts/

Node Left Objective IInf Best Integer Best Bound ItCnt Gap

0 0 594.0000 1671 594.0000 0

0 0 594.0000 1110 Cuts: 703 4400

0 0 594.0000 1244 Cuts: 652 10166

0 0 594.0000 1535 Cuts: 1010 19682

0 2 594.0000 843 594.0000 19682

Elapsed time = 67.72 sec. (35627.22 ticks, tree = 0.01 MB, solutions = 0)

1 3 594.0000 770 594.0000 38213

2 4 594.0000 1058 594.0000 46487

3 3 594.0000 826 594.0000 34834

4 5 594.0000 1193 594.0000 53724

5 4 594.0000 1118 594.0000 46100

6 5 594.0000 1210 594.0000 53352

8 8 594.0000 958 594.0000 86242

13 13 594.0000 921 594.0000 105949

16 16 594.0000 1048 594.0000 112519

38 16 594.0000 1483 594.0000 110854

Elapsed time = 95.47 sec. (53702.32 ticks, tree = 0.02 MB, solutions = 0)

82 23 594.0000 1373 594.0000 115296

133 21 594.0000 1484 594.0000 117924

193 83 594.0000 729 594.0000 166404

275 95 594.0000 1453 594.0000 173513

297 177 594.0000 1283 594.0000 229735

307 26 594.0000 1544 594.0000 157707

312 233 594.0000 870 594.0000 268316

350 250 594.0000 796 594.0000 283044

382 290 594.0000 1451 594.0000 286536

406 299 594.0000 1351 594.0000 292239

Elapsed time = 125.34 sec. (64500.40 ticks, tree = 2.88 MB, solutions = 0)

459 336 594.0000 532 594.0000 322220

527 364 594.0000 583 594.0000 343244

567 385 594.0000 624 594.0000 391178

589 453 594.0000 602 594.0000 452680

626 481 594.0000 443 594.0000 497943

647 483 594.0000 633 594.0000 538697

692 532 594.0000 726 594.0000 584951

756 552 594.0000 632 594.0000 603756

817 613 594.0000 1223 594.0000 638543

884 671 594.0000 500 594.0000 706692

Elapsed time = 151.50 sec. (74287.34 ticks, tree = 5.85 MB, solutions = 0)

951 682 594.0000 474 594.0000 722222

1027 814 infeasible 594.0000 934961

1102 736 594.0000 539 594.0000 851684

1143 978 infeasible 594.0000 1119247

1185 891 infeasible 594.0000 1080849

1225 997 infeasible 594.0000 1350378

1269 992 infeasible 594.0000 1368372

1320 957 infeasible 594.0000 1313328

1379 906 infeasible 594.0000 1655810

1418 835 infeasible 594.0000 1776343

Elapsed time = 174.98 sec. (83925.84 ticks, tree = 7.00 MB, solutions = 0)

1452 819 infeasible 594.0000 1787850

1477 813 infeasible 594.0000 1793984

1490 771 infeasible 594.0000 1834048

1499 760 594.0000 962 594.0000 1861658

1505 790 594.0000 978 594.0000 1816889

1523 705 594.0000 944 594.0000 1929359

1539 696 594.0000 955 594.0000 1991746

1559 696 594.0000 908 594.0000 1979889

1575 715 594.0000 794 594.0000 2042456

1590 699 594.0000 884 594.0000 1991132

Elapsed time = 205.69 sec. (94177.57 ticks, tree = 5.96 MB, solutions = 0)

1602 702 594.0000 949 594.0000 2038561

1611 742 594.0000 793 594.0000 2099955

1629 746 594.0000 840 594.0000 2171831

1645 733 infeasible 594.0000 2168970

1669 758 594.0000 706 594.0000 2244120

1683 760 594.0000 747 594.0000 2249886

1702 759 594.0000 919 594.0000 2237688

1713 786 594.0000 656 594.0000 2357202

1736 800 594.0000 645 594.0000 2416611

1752 770 infeasible 594.0000 2384267

Elapsed time = 235.28 sec. (104545.26 ticks, tree = 6.33 MB, solutions = 0)

1772 807 594.0000 686 594.0000 2431882

1787 826 594.0000 738 594.0000 2578349

1813 842 594.0000 653 594.0000 2620254

1852 849 594.0000 729 594.0000 2681999

1899 867 594.0000 729 594.0000 2697931

1946 870 594.0000 794 594.0000 2761562

2003 933 594.0000 612 594.0000 2857808

2038 897 594.0000 537 594.0000 2800854

2064 972 594.0000 647 594.0000 2914470

2113 1032 594.0000 595 594.0000 2990589

Elapsed time = 261.72 sec. (114352.54 ticks, tree = 7.71 MB, solutions = 0)

2195 1041 594.0000 697 594.0000 3046670

2268 1107 594.0000 635 594.0000 3182318

2321 1054 594.0000 535 594.0000 3131731

2404 1172 594.0000 588 594.0000 3298250

2505 1288 594.0000 414 594.0000 3360968

2589 1266 594.0000 516 594.0000 3413445

2644 1414 594.0000 602 594.0000 3628963

2716 1427 594.0000 692 594.0000 3656370

2794 1567 594.0000 304 594.0000 3745096

2858 1452 594.0000 556 594.0000 3687852

Elapsed time = 286.48 sec. (124046.38 ticks, tree = 11.08 MB, solutions = 0)

2912 1604 594.0000 490 594.0000 3777214

2940 1592 594.0000 642 594.0000 3817212

2988 1746 infeasible 594.0000 4125540

3017 1734 infeasible 594.0000 4160987

3056 1726 infeasible 594.0000 4177708

3076 1699 594.0000 752 594.0000 4231855

3093 1727 594.0000 717 594.0000 4187432

3108 1653 594.0000 690 594.0000 4392543

3121 1628 594.0000 860 594.0000 4517946

3133 1617 infeasible 594.0000 4572408

Elapsed time = 315.36 sec. (134344.68 ticks, tree = 11.03 MB, solutions = 0)

3146 1615 infeasible 594.0000 4590777

3169 1599 infeasible 594.0000 4648857

3195 1574 infeasible 594.0000 4863724

3210 1589 infeasible 594.0000 4711215

3231 1554 infeasible 594.0000 4930869

3241 1551 594.0000 782 594.0000 4945592

3251 1551 594.0000 863 594.0000 4955342

3261 1553 594.0000 709 594.0000 4963243

3274 1551 infeasible 594.0000 4982408

3341 1497 infeasible 594.0000 5415599

Elapsed time = 352.19 sec. (147511.98 ticks, tree = 10.28 MB, solutions = 0)

3382 1462 594.0000 946 594.0000 5737837

3426 1438 infeasible 594.0000 6012200

3486 1439 infeasible 594.0000 6200375

3542 1437 594.0000 883 594.0000 6221481

3570 1452 infeasible 594.0000 6629686

3612 1454 infeasible 594.0000 6802084

3651 1451 infeasible 594.0000 6787900

3688 1468 594.0000 937 594.0000 7375908

3716 1472 594.0000 937 594.0000 7394592

3734 1479 594.0000 978 594.0000 7597113

Elapsed time = 467.83 sec. (187026.91 ticks, tree = 10.13 MB, solutions = 0)

3757 1472 594.0000 1071 594.0000 7724490

3780 1469 594.0000 1123 594.0000 7636596

3806 1479 594.0000 1055 594.0000 7908526

3842 1470 infeasible 594.0000 8091419

3860 1496 594.0000 908 594.0000 8184295

3886 1486 594.0000 931 594.0000 8388601

3900 1492 594.0000 1094 594.0000 8420247

3933 1524 594.0000 1062 594.0000 8704663

3964 1534 594.0000 880 594.0000 8736558

3986 1533 594.0000 847 594.0000 8905622

Elapsed time = 590.25 sec. (226098.40 ticks, tree = 10.32 MB, solutions = 0)

4007 1536 594.0000 798 594.0000 8937027

4024 1554 594.0000 1378 594.0000 9048469

4061 1581 594.0000 743 594.0000 9382341

4095 1595 infeasible 594.0000 9415820

4112 1586 594.0000 880 594.0000 9646384

4162 1620 infeasible 594.0000 9825411

4194 1628 infeasible 594.0000 9899861

4218 1668 infeasible 594.0000 9972614

4233 1679 594.0000 1271 594.0000 10146670

4243 1671 594.0000 1286 594.0000 10147449

Elapsed time = 713.63 sec. (265257.83 ticks, tree = 11.02 MB, solutions = 0)

4265 1671 594.0000 1011 594.0000 10290703

4289 1668 infeasible 594.0000 10513590

4299 1668 594.0000 1214 594.0000 10617403

4314 1676 infeasible 594.0000 10704420

4329 1675 594.0000 1334 594.0000 10676390

4346 1681 594.0000 1482 594.0000 10818728

4361 1692 infeasible 594.0000 10970512

4376 1690 infeasible 594.0000 11005951

4386 1699 594.0000 1552 594.0000 11168601

4401 1712 594.0000 1238 594.0000 11385620

Elapsed time = 844.92 sec. (307324.57 ticks, tree = 11.54 MB, solutions = 0)

4420 1712 infeasible 594.0000 11397466

4429 1713 594.0000 1182 594.0000 11413100

4446 1748 infeasible 594.0000 11667721

4462 1739 594.0000 1218 594.0000 11638902

4478 1771 infeasible 594.0000 11866353

4490 1775 infeasible 594.0000 11951264

4494 1744 594.0000 1410 594.0000 11773529

4504 1783 594.0000 1538 594.0000 12200717

4509 1773 594.0000 1465 594.0000 12036986

4514 1774 infeasible 594.0000 12618910

Elapsed time = 1003.36 sec. (352938.37 ticks, tree = 11.68 MB, solutions = 0)

4520 1772 infeasible 594.0000 12628820

4531 1771 infeasible 594.0000 12489043

4542 1777 594.0000 1543 594.0000 12677255

4555 1776 infeasible 594.0000 12817595

4560 1775 infeasible 594.0000 12701710

4568 1777 594.0000 1551 594.0000 12990853

4577 1775 infeasible 594.0000 13151577

4581 1773 infeasible 594.0000 13056084

4585 1784 594.0000 1481 594.0000 13179596

4591 1774 infeasible 594.0000 13404651

Elapsed time = 1141.06 sec. (395458.26 ticks, tree = 11.68 MB, solutions = 0)

4598 1773 infeasible 594.0000 13439178

4606 1782 594.0000 1481 594.0000 13286319

4614 1777 594.0000 1244 594.0000 13638351

4625 1777 594.0000 1499 594.0000 13699322

4633 1769 594.0000 1181 594.0000 14058822

4643 1774 594.0000 1490 594.0000 14169824

4659 1776 594.0000 1361 594.0000 14178885

4680 1784 594.0000 1095 594.0000 14207205

4702 1791 594.0000 1124 594.0000 14229034

4717 1797 infeasible 594.0000 14312036

Elapsed time = 1281.94 sec. (437034.57 ticks, tree = 12.37 MB, solutions = 0)

4727 1804 infeasible 594.0000 14558016

4738 1808 594.0000 900 594.0000 14482568

4753 1830 infeasible 594.0000 14869510

4778 1844 594.0000 834 594.0000 14887684

4805 1852 infeasible 594.0000 14907713

4828 1836 594.0000 1268 594.0000 14971331

4833 1828 infeasible 594.0000 15129149

4844 1856 infeasible 594.0000 15281706

4848 1855 594.0000 1475 594.0000 15254809

GUB cover cuts applied: 3

Clique cuts applied: 1028

Cover cuts applied: 2231

Implied bound cuts applied: 919

Flow cuts applied: 2

Mixed integer rounding cuts applied: 148

Zero-half cuts applied: 173

Lift and project cuts applied: 1

Gomory fractional cuts applied: 7

Root node processing (before b&c):

Real time = 67.53 sec. (35485.01 ticks)

Parallel b&c, 8 threads:

Real time = 1339.55 sec. (466679.20 ticks)

Sync time (average) = 89.40 sec.

Wait time (average) = 0.01 sec.

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Total (root+branch&cut) = 1407.08 sec. (502164.21 ticks)

Warning: Non-integral bounds for integer variables rounded.

Tried aggregator 2 times.

MIP Presolve eliminated 32611 rows and 35801 columns.

MIP Presolve modified 318 coefficients.

Aggregator did 52 substitutions.

Reduced MIP has 7212 rows, 11550 columns, and 49667 nonzeros.

Reduced MIP has 11550 binaries, 0 generals, 0 SOSs, and 0 indicators.

Presolve time = 0.06 sec. (81.15 ticks)

Probing fixed 253 vars, tightened 0 bounds.

Probing time = 0.09 sec. (44.39 ticks)

Tried aggregator 1 time.

MIP Presolve eliminated 253 rows and 253 columns.

Reduced MIP has 6959 rows, 11297 columns, and 48204 nonzeros.

Reduced MIP has 11297 binaries, 0 generals, 0 SOSs, and 0 indicators.

Presolve time = 0.05 sec. (45.89 ticks)

Probing time = 0.02 sec. (5.56 ticks)

Clique table members: 28810.

MIP emphasis: balance optimality and feasibility.

MIP search method: dynamic search.

Parallel mode: deterministic, using up to 8 threads.

Root relaxation solution time = 0.72 sec. (735.59 ticks)

Nodes Cuts/

Node Left Objective IInf Best Integer Best Bound ItCnt Gap

0 0 0.0000 2047 0.0000 0

0 0 0.0000 1243 Cuts: 796 4134

0 0 0.0000 1216 Cuts: 944 10999

0 0 0.0000 1188 Cuts: 542 17117

0 0 0.0000 1555 Cuts: 1011 27030

0 0 0.0000 1675 Cuts: 986 38472

0 2 0.0000 954 0.0000 38472

Elapsed time = 126.67 sec. (71642.99 ticks, tree = 0.01 MB)

1 3 0.0000 957 0.0000 62877

2 4 0.0000 1146 0.0000 72619

3 5 0.0000 1310 0.0000 81805

5 7 0.0000 1406 0.0000 85133

7 8 0.0000 1616 0.0000 86294

8 4 0.0000 1081 0.0000 72795

9 11 0.0000 1313 0.0000 118215

10 9 0.0000 1814 0.0000 112452

11 12 0.0000 1205 0.0000 118964

14 10 0.0000 1250 0.0000 115002

Elapsed time = 165.67 sec. (96197.71 ticks, tree = 0.01 MB)

19 13 0.0000 1596 0.0000 128051

28 20 0.0000 1212 0.0000 132156

36 15 0.0000 1463 0.0000 130639

51 20 0.0000 1452 0.0000 144059

75 41 0.0000 1292 0.0000 182999

100 59 0.0000 1359 0.0000 197757

141 69 0.0000 1462 0.0000 218578

174 122 0.0000 1511 0.0000 278804

212 158 0.0000 1443 0.0000 335682

251 103 0.0000 1360 0.0000 257319

Elapsed time = 191.80 sec. (106335.51 ticks, tree = 0.39 MB)

273 187 0.0000 1389 0.0000 356038

287 175 0.0000 1370 0.0000 351851

300 201 0.0000 1345 0.0000 366660

308 301 0.0000 893 0.0000 469352

317 262 0.0000 1156 0.0000 433127

320 304 0.0000 1223 0.0000 496656

327 309 0.0000 1219 0.0000 502791

335 319 0.0000 1181 0.0000 526716

343 322 0.0000 1237 0.0000 541327

350 329 0.0000 1232 0.0000 547544

Elapsed time = 228.14 sec. (117199.28 ticks, tree = 1.19 MB)

373 326 0.0000 817 0.0000 554646

400 353 0.0000 1225 0.0000 592570

428 358 0.0000 1293 0.0000 598702

459 347 0.0000 1192 0.0000 585366

478 373 0.0000 1277 0.0000 607063

513 404 0.0000 1228 0.0000 650461

530 387 0.0000 1112 0.0000 640419

548 420 0.0000 1158 0.0000 663031

576 493 0.0000 1247 0.0000 726016

608 522 0.0000 1156 0.0000 755492

Elapsed time = 257.27 sec. (127005.94 ticks, tree = 2.71 MB)

643 558 0.0000 661 0.0000 798342

673 517 0.0000 1202 0.0000 743201

702 597 0.0000 775 0.0000 819516

746 659 0.0000 1162 0.0000 897897

794 665 0.0000 1176 0.0000 904472

830 674 0.0000 1158 0.0000 911062

857 702 0.0000 1122 0.0000 937357

888 759 0.0000 586 0.0000 1006658

927 769 0.0000 589 0.0000 1026433

984 833 0.0000 563 0.0000 1096215

Elapsed time = 286.91 sec. (136809.83 ticks, tree = 4.40 MB)

1011 807 0.0000 903 0.0000 1052609

1045 853 0.0000 616 0.0000 1133415

1079 834 0.0000 765 0.0000 1109126

1110 1012 infeasible 0.0000 1358663

1118 1048 infeasible 0.0000 1402440

1126 1047 infeasible 0.0000 1408991

1135 1049 0.0000 891 0.0000 1426971

1140 1043 infeasible 0.0000 1423923

1147 1054 0.0000 1122 0.0000 1417479

1151 1053 0.0000 840 0.0000 1443868

Elapsed time = 317.52 sec. (146988.14 ticks, tree = 5.35 MB)

1157 1035 infeasible 0.0000 1553692

1163 1026 infeasible 0.0000 1595252

1167 1044 0.0000 1019 0.0000 1499896

1174 1046 infeasible 0.0000 1653200

1182 1048 0.0000 813 0.0000 1777979

1192 1056 0.0000 731 0.0000 1781911

1201 1062 0.0000 723 0.0000 1791391

1205 1050 0.0000 925 0.0000 1706499

1212 1065 0.0000 691 0.0000 1796459

1217 1080 0.0000 799 0.0000 2014970

Elapsed time = 352.61 sec. (157825.85 ticks, tree = 5.54 MB)

1223 1041 0.0000 1150 0.0000 1783899

1230 1081 0.0000 693 0.0000 2004815

1239 1057 infeasible 0.0000 1925395

1246 1079 infeasible 0.0000 2056869

1253 1079 0.0000 1192 0.0000 2060733

1257 1087 infeasible 0.0000 2257026

1261 1086 infeasible 0.0000 2271349

1266 1052 0.0000 1079 0.0000 1925305

1273 1092 0.0000 911 0.0000 2359388

1284 1101 0.0000 709 0.0000 2214837

Elapsed time = 389.13 sec. (168890.06 ticks, tree = 5.67 MB)

1289 1079 0.0000 1191 0.0000 2169252

1300 1095 0.0000 995 0.0000 2389410

1314 1101 0.0000 866 0.0000 2394620

1322 1100 0.0000 914 0.0000 2381200

1337 1116 0.0000 773 0.0000 2435211

1344 1118 0.0000 777 0.0000 2610913

1358 1121 0.0000 780 0.0000 2616617

1362 1123 0.0000 767 0.0000 2622135

1376 1141 0.0000 864 0.0000 2653144

1383 1130 0.0000 715 0.0000 2632148

Elapsed time = 423.78 sec. (179226.58 ticks, tree = 5.85 MB)

1389 1136 infeasible 0.0000 2846353

1401 1133 infeasible 0.0000 2859101

1408 1134 infeasible 0.0000 2866470

1420 1179 0.0000 1177 0.0000 3018732

1441 1161 0.0000 684 0.0000 2974526

1466 1197 0.0000 807 0.0000 3024848

1487 1188 infeasible 0.0000 3038068

1494 1188 infeasible 0.0000 3047487

1523 1218 0.0000 770 0.0000 3068838

1657 1232 0.0000 587 0.0000 3219213

Elapsed time = 463.11 sec. (192483.12 ticks, tree = 6.67 MB)

1823 1395 0.0000 615 0.0000 3622063

1920 1308 infeasible 0.0000 3516488

1956 1556 infeasible 0.0000 4021370

1976 1548 infeasible 0.0000 4063874

1989 1546 infeasible 0.0000 4371576

1996 1537 0.0000 1410 0.0000 4536092

2008 1543 0.0000 1350 0.0000 4500463

2026 1539 0.0000 1354 0.0000 4573793

2050 1545 0.0000 1373 0.0000 4815874

2071 1557 0.0000 899 0.0000 4847434

Elapsed time = 594.06 sec. (232559.67 ticks, tree = 8.20 MB)

2095 1556 0.0000 1172 0.0000 4910266

2114 1566 0.0000 1310 0.0000 5002769

2128 1593 infeasible 0.0000 5282483

2157 1590 infeasible 0.0000 5178099

2193 1596 infeasible 0.0000 5425615

2225 1610 0.0000 889 0.0000 5465932

2252 1610 infeasible 0.0000 5609273

2276 1611 0.0000 1123 0.0000 5586023

2300 1647 infeasible 0.0000 5813056

2334 1659 0.0000 850 0.0000 5854366

Elapsed time = 720.95 sec. (272788.27 ticks, tree = 15.90 MB)

2411 1701 0.0000 774 0.0000 6172485

2514 1712 0.0000 1147 0.0000 6006990

2642 1764 0.0000 834 0.0000 6418399

2697 1796 0.0000 841 0.0000 6452118

2731 1766 0.0000 1147 0.0000 6500991

2748 1682 infeasible 0.0000 6223150

2769 1908 0.0000 1178 0.0000 6896677

2791 1970 infeasible 0.0000 7214172

2806 1952 infeasible 0.0000 7268176

2830 1975 0.0000 946 0.0000 7465490

Elapsed time = 844.86 sec. (311948.24 ticks, tree = 27.12 MB)

2859 1973 infeasible 0.0000 7505867

2881 1998 0.0000 842 0.0000 7597233

2924 2022 0.0000 1223 0.0000 7704470

2997 2031 0.0000 1231 0.0000 7726321

3095 2082 0.0000 1419 0.0000 7899226

3156 2165 infeasible 0.0000 8302877

3212 2103 infeasible 0.0000 8301859

3232 2286 infeasible 0.0000 8619770

3245 2276 infeasible 0.0000 8763066

3254 2276 infeasible 0.0000 8757518

Elapsed time = 969.61 sec. (351710.64 ticks, tree = 36.79 MB)

3265 2243 0.0000 1215 0.0000 8625760

GUB cover cuts applied: 2

Clique cuts applied: 1445

Cover cuts applied: 463

Implied bound cuts applied: 2364

Flow cuts applied: 4

Mixed integer rounding cuts applied: 208

Zero-half cuts applied: 182

Root node processing (before b&c):

Real time = 126.45 sec. (71502.60 ticks)

Parallel b&c, 8 threads:

Real time = 873.27 sec. (308935.01 ticks)

Sync time (average) = 66.38 sec.

Wait time (average) = 0.01 sec.

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Total (root+branch&cut) = 999.72 sec. (380437.61 ticks)