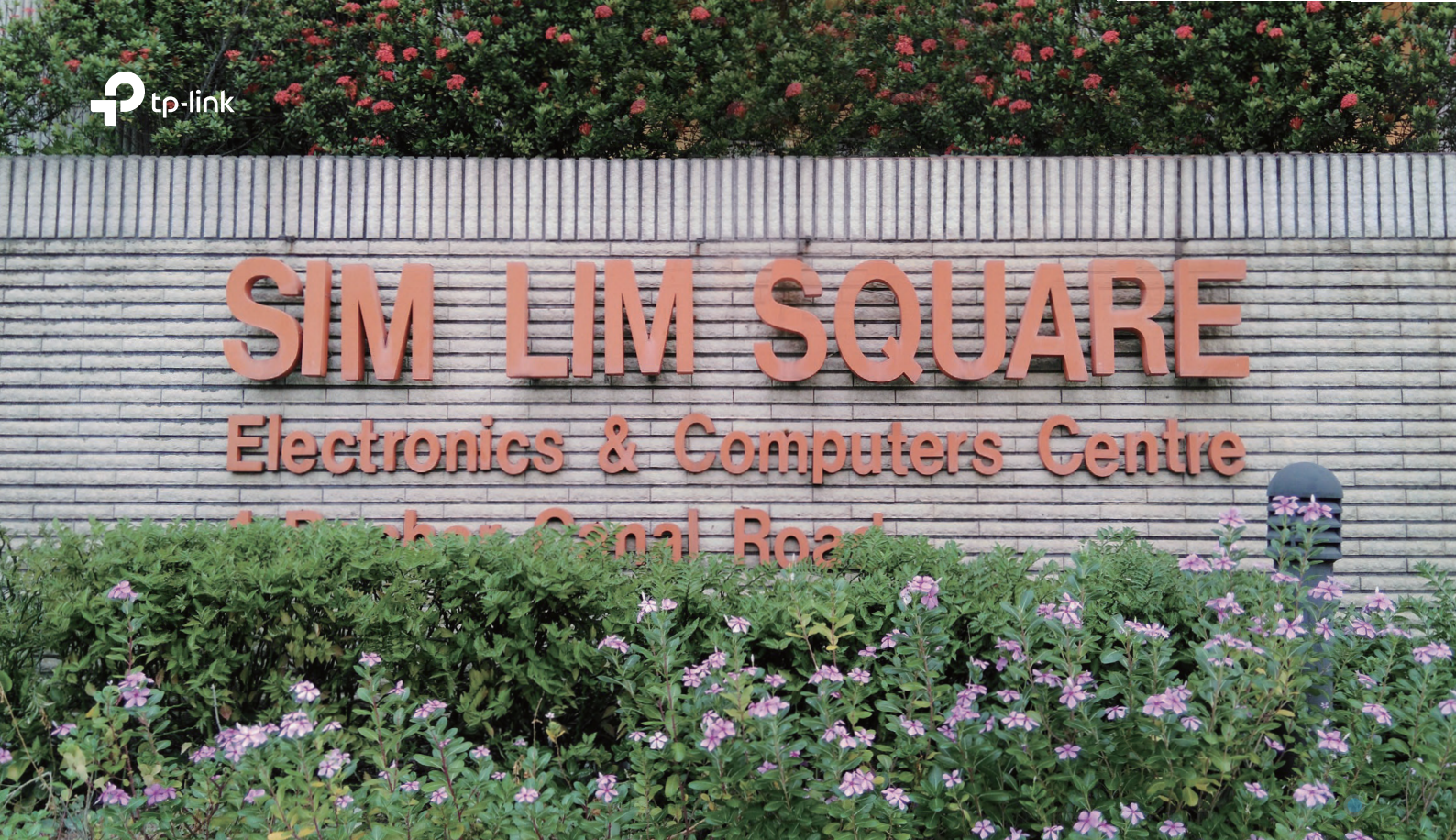




SIM LIM SQUARE

Electronics & Computers Centre

100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

TP-Link Helps Sim Lim Square Provide Free Public Wi-Fi for Customers

♥ CUSTOMER PROFILE

Name: Singapore

Sector: Retail

Capacity: 500+ Merchants,
10,000 Daily Visitors

Location: Singapore

components. With its wide selection, Sim Lim Square attracts thousands of Singapore's amateur and veteran electronics enthusiasts each day, as well as visitors from Malaysia and neighboring Southeast Asian countries.

♥ BACKGROUND

Singapore's largest IT and electronics shopping mall, Sim Lim Square is a six-floor electronics plaza that hosts a large variety of merchants selling anything from home entertainment equipment to computer

"Our customers need real-time contact with their friends, family members and colleagues in order to communicate suggestions and information. Free Wi-Fi provides a dramatic improvement to sharing their shopping experiences online."
Sean Chia, Head of Advertising & Promotions, Sim Lim Square

♥ CHALLENGE

Due to a host of factors, including overwhelming Wi-Fi user size, signal noise from several Wi-Fi networks and management availability limitations, Sim Lim Square faced many barriers that prevented a single reliable network for their visitors.



• Huge Demand for Access

"The six- floor shopping mall often hosts up to 10,000 visitors per day, with up to 1,000 shoppers at one time, making us the largest IT and electronics shopping mall in Singapore " explained Sean Chia, Head of Advertising and Promotions for Sim Lim Square. *"We hope to improve the shopping experience by providing free public Wi-Fi that covers the entire venue and provide uninterrupted internet access, especially in core public areas."*

A free public Wi-Fi solution should be capable of supporting the mall's huge access demand. Each shopper should be able to enjoy a variety of demanding applications, including video chatting and streaming.

• Severe Wireless Interference

With more than 500 retail outlets, almost all shop owners create private Wi-Fi hotspots for themselves, creating heavy wireless interference throughout the mall's six floors. The free public Wi-Fi solution must be able to be readily available without competing with or interrupting these private networks, and vice-versa.

• A Network Powered-over-Ethernet

Sean explained that PoE functionality is essential because it allows the mall to expand its network through any environmental condition. *"Obviously, it makes sense to power our APs, IP phones, and IP cameras with PoE so that we can install them in any hard-to-reach area where they are needed,"* he said. Therefore, the mall's Wi-Fi network needs to be able to reliably run throughout the building solely with PoE.

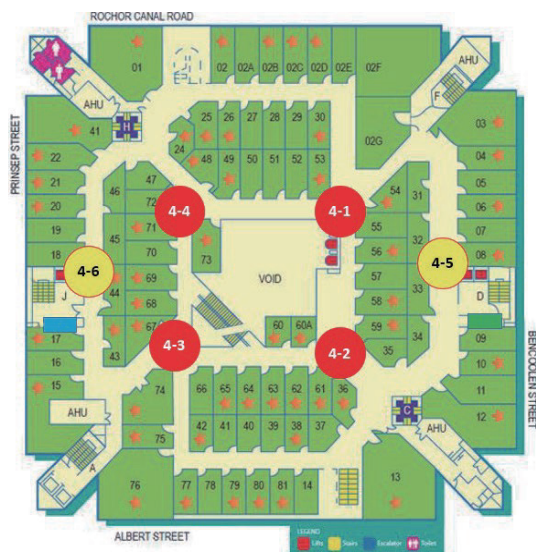


• Lack of Technical Staff

Even after the Wi-Fi network is fully deployed and ready for use, the mall does not have a large technical staff that can be dedicated to managing the public Wi-Fi network. For this reason, the network's management system must be able to be accessible and understood by an administrator with limited time, resources or experience with such a large-scale network.

✓ SOLUTION

Sim Lim Square chose the TP-Link Auranet Business Indoor Wi-Fi Solution over those offered by other vendors because it satisfied all of their requirements, while remaining significantly more cost-effective.



"Originally, when we looked at other solutions, like that of Cisco or Aruba, they far exceeded our budget very quickly," said Chia. "We wanted a high-performance business-class Wi-Fi solution at an affordable cost, which also solved every issue that prevented reliable, free public Wi-Fi in our shopping center. TP-Link

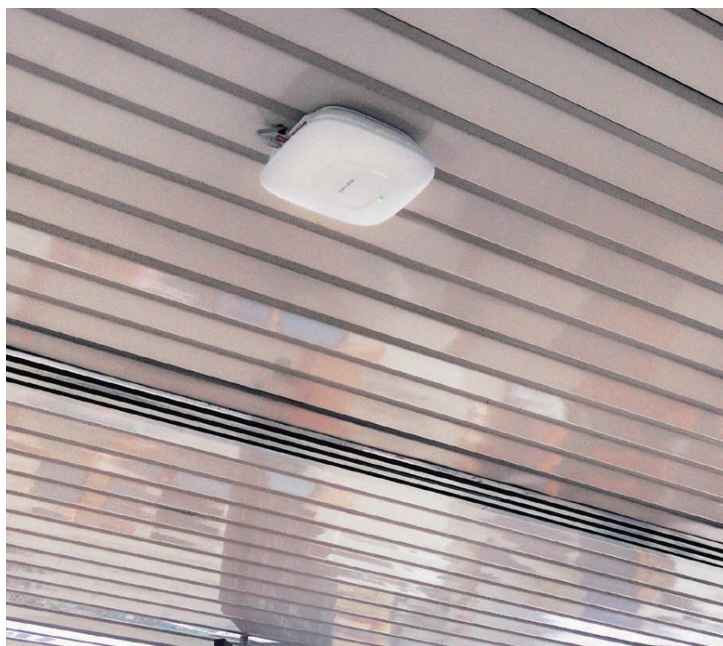
offered that solution."

TP-Link's installation began with an included site survey service, providing a thorough analysis of the wireless environment, the existing IT infrastructure and the architectural structure of Sim Lim Square. The analysis confirmed the challenges, including the competing private networks throughout the building. The mall's staff also demanded that their new Wi-Fi network could be installed quickly and that it would be easy to manage. Considering these requirements, the report concluded that ceiling-mounted Auranet EAP220 access points and TL-SG3424P L2 Managed PoE+ Switches would provide an ideal solution.

• Auranet Series Business Wi-Fi Solution Satisfies Huge Wi-Fi Access Demands

To obtain a smooth business-class Wi-Fi experience in the mall's high-density user environment, 45 N600 Dual Band Auranet EAP220s were deployed, since dual band Wi-Fi avoids wireless interference.

"Now, our customers can enjoy free high speed Wi-Fi in every store and public area," Chia noted. "When they are shopping, they can video chat with their friends to get useful advice, watch online reviews of the latest electronic devices, and share their shopping experience on social media."



- PoE Switches Make Installing Ceiling-Mounted APs Easy and Flexible

The TP-Link JetStream L2 Managed PoE+ Switch TL-SG3424P features 24 PoE+ ports. With a total power supply of 320W, the switches are powerful and flexible for use with ceiling-mounted access points. This function results in an efficient and cost-effective choice that also eliminates the hassle of running new cables and power lines in a large, complex environment such as Sim Lim Square.

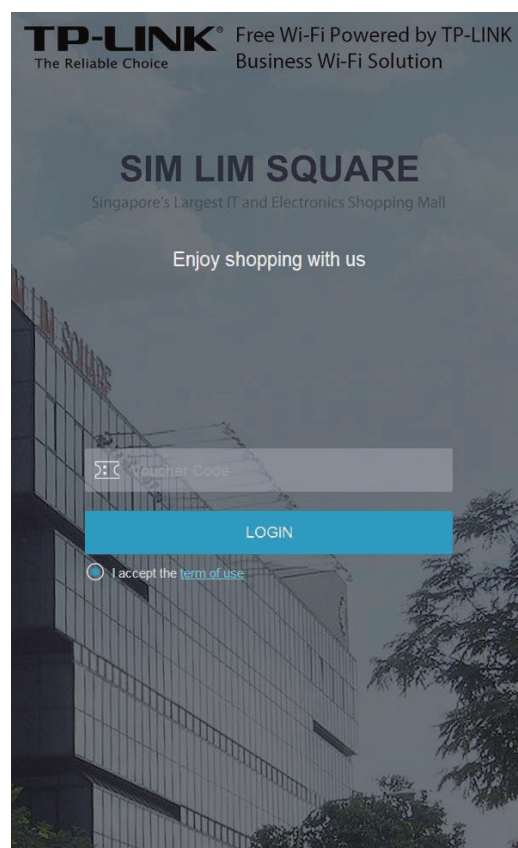
- Free EAP Controller Software Provides Easy Management for the Whole Network

Network management for a business solution of this type is typically complicated, requiring specialized training. However, EAP controller software provided a simple, intuitive interface for unified network management without any training needed at all. The mall's network administrator expressed surprise by how easy it was to configure and manage their new Wi-Fi network.

"Since the software is completely free, it also saves us a lot of money, which we can now invest in other improvements that ensure a better overall shopping experience for our guests," said Chia.

♥ RESULTS

The free public Wi-Fi earned a lot of praise from customers visiting the mall. After the Auranet EAP Solution went live at Sim Lim Square, most customers said that they were very happy to learn that the mall was offering free Wi-Fi. The mall's management also noticed that just by offering free Internet access, Sim Lim Square had expanded its organic social media presence, where customers shared their positive shopping experiences in the mall in real-time.



Chia concluded, "Our customer satisfaction levels have been greatly improved since we started offering free public Wi-Fi throughout the entire mall. For that alone, the solution TP-Link provided was the best choice."