

TECH TALK



Speaker: Mr. Goh Bih Der
Systems Engineer at
Commscope Sdn. Bhd.
Malaysia

Commscope is an American global network infrastructure provider, has played a crucial role in supporting businesses during and after the pandemic. Mr. Goh Bih Der, an IT professional with over 8 years of experience specializing in data centers, education, hospitality, service providers, healthcare, and network solutions, shared valuable insights on how the world has changed in the IT landscape.

PANDEMIC IMPACT ON THE IT WORLD

Mr. Goh Bih Der shared insights on how the pandemic has impacted the IT industry. Covid-19 forced businesses to adapt to remote work, hybrid study, and virtual teaching. This shift led to increased reliance on cloud and mobile computing, allowing companies to sustain operations despite lockdowns. The pandemic also accelerated digital transformation as businesses turned to online platforms for sales, including live-selling and e-commerce solutions. With physical retail visits declining, online shopping became the norm. Governments also took significant steps to enhance broadband connectivity, ensuring better access to digital services for businesses and individuals.

TECHNOLOGY HIGHLIGHTS

The evolution of network infrastructure is driven by technological advancements and changing societal needs, particularly in the wake of the COVID-19 pandemic. As organizations and educational institutions adapt to these changes, embracing new technologies such as Wi-Fi 6, multi-gigabit solutions, and IoT will be crucial for maintaining competitive advantages and providing high-quality experiences for users. Investing in unified network management and analytics will further enhance operational efficiency and support the growing demand for connectivity in our increasingly digital world.



WIFI & Access Point

In the talk session, the speaker has addressed that Wi-Fi has become a critical global technology with immense financial value. In 2021, the global Wi-Fi market was valued at 3.3 trillion USD, and it is expected to grow to 4.9 trillion USD by 2025. The Latest Wireless Technology is Wi-Fi 6 (11 ax), which introduces advanced features to solve major network challenges:

- OFDMA (Orthogonal Frequency Division Multiple Access): Improves network capacity.
- MU-MIMO (Multi-User, Multiple-Input, Multiple-Output): Enhances network efficiency and capacity.
- Power Efficiencies: Extends device battery life.
- 1024-QAM (Quadrature Amplitude Modulation): Increases peak throughput.
- Long OFDM Symbol: Enhances outdoor reliability and peak throughput.
- BSS Coloring (Basic Service Set Coloring): Improves network capacity and Wi-Fi coexistence.



Unified Network Management

- Centralizes the management of both wired and wireless devices.
- Simplifies tasks like password changes across multiple access points, improving efficiency for network administrators.



Internet of Things (IoT)

The Internet of Things (IoT) is a network of interconnected devices that communicate and share data over the internet, enabling automation and data analysis without human intervention. IoT devices connect to the cloud and each other, driving significant growth across industries. By 2025, 50 billion new devices are expected, with the smart building market reaching \$108 billion, home automation growing by \$25 billion annually, and smart hospitality expanding to \$12 billion. Implementing IoT solutions offers benefits such as cost reduction, enhanced customer experiences, increased efficiency, and new business opportunities. However, challenges like connectivity, security, and compatibility must be addressed for successful deployment.

TECHNOLOGY HIGHLIGHTS

MULTIGIGABIT TECHNOLOGY mentioned in the talk encompasses the advancements in both access points and network switches. Traditional technologies limits the bandwidth of devices connected to the access points leading to network congestion. Hence, Multigigabit Access Points was introduced to address these limitations. However, upgrading only the access points without upgrading the switches can cause a bottleneck in the network. Therefore, a well-planned network infrastructure upgrade is essential to fully leverage new technologies, ensuring better service quality and security.



Cloud Analytics

Cloud analytics leverages cloud computing to process, store, and analyze large datasets, helping businesses identify patterns, make predictions, and gain valuable insights. It enhances decision-making and can improve customer service, product availability, and more. However, managing cloud analytics can be complex, with 42% of network professionals spending excessive time troubleshooting and 38% struggling to proactively identify network issues. Wireless connectivity ranks as the top network challenge in this field.



Smart City

A smart city integrates physical and network infrastructure to enhance urban living through IoT connectivity, linking buildings, vehicles, people, and devices. It enables situational awareness for new services, reduces costs, and improves public safety. Smart cities also promote smart living, learning, and security, creating more efficient and sustainable urban environments.

“This talk motivated me to recognize the power of digital transformation and the importance of staying adaptable in an ever-evolving world. It was eye-opening to see how businesses that embraced technology flourished while others struggled to keep up. I also developed a greater interest in network infrastructure, realizing how challenges in managing it lead to innovative solutions. Technologies like RUCKUS, with its streamlined control and clear monitoring, make networks more efficient and create valuable opportunities for both businesses and society.”

-Yaaswini Abbiramavally Thinaharan, A24CS0213

This Tech Talk provided valuable insights into how digital transformation is shaping businesses, especially with cloud computing, Wi-Fi 6, and IoT. It was interesting to see how companies adapted to remote work and how multigigabit technology helps with network efficiency. The discussion on smart cities also made me think about the future of urban technology. Overall, it reinforced the importance of staying updated with tech trends and being adaptable in an ever-changing IT landscape.

-Najihah Binti Azhan Khan, A24CS0144

Reflections

“This talk highlighted how businesses had to quickly adapt to digital platforms to survive. The advancements in cloud computing, AI, and Wi-Fi 6 show how technology plays a crucial role in modern business operations. One key takeaway was the importance of adaptability. Businesses that embraced digital transformation thrived, while others struggled.”

-Husna Safiyyah binti Muhammad Farouk, A24CS0083

“I aspired to become proficient in the fundamentals of networks and understand how the whole mechanism of the network infrastructure works. I also gained insights on how the problem faced by humanity such as in the management of network infrastructure leads to innovation such as the solution offered by RUCKUS, a centralised controller and transparent monitoring to facilitate the management that provides an opportunity for business and advantages to society.”

-Nurulhanisa binti Mohd Ikhsan, A21EM0207

I hadn't fully considered the pandemic's significant impact on accelerating digital transformation, and the perspective on that was particularly thought-provoking. It was incredibly valuable for hearing professionals discuss real-world applications of the concepts we're learning in class solidified my understanding and sparked some new ideas. This reflection serves as a reminder of the importance of continuous learning and adaptation in the face of rapid technological advancements

-Seah Zhang Jian, A24CS0297

