

## Terms and Definitions

By Michael Katz

- A **Competitive Local Exchange Carrier (CLEC)**, in the U.S. and Canada, is a telecommunications provider company or carrier competing with other, already established carriers, generally the incumbent local exchange carrier (ILEC).
- **Local Exchange Carriers (LECs)** are divided into incumbent (ILECs) and competitive (CLECs). The ILECs are usually the original, monopoly LEC in each area, and receive different regulatory treatment from the newer CLECs. A data local exchange carrier (DLEC) is a CLEC specializing in DSL services by leasing lines from the ILEC and reselling them to Internet Service Providers (ISPs).
- **Cisco Telepresence**, first introduced in October 2006, is a range of products developed by Cisco Systems designed to link two physically separated rooms, so they resemble a single conference room regardless of location. Cisco documented the Telepresence concept and implementation details in the book *Cisco Telepresence Fundamentals*, where the difference between Telepresence and the prevalent videoconferencing is defined as quality, simplicity, and reliability.
- **Cloud computing** is the on-demand availability of computer system resources, especially data storage and computing power, without direct active management by the user. The term is generally used to describe data centers available to many users over the Internet.
- **Mobile collaboration** is a technology-based process of communicating using electronic assets and accompanying software designed for use in remote locations. Newest generation hand-held electronic devices feature video, audio and telestration (on-screen drawing) capabilities broadcast over secure networks, enabling multi-party conferencing in real time (although real time communication is not a strict requirement of mobile collaboration and may not be applicable or practical in many collaboration scenarios). Differing from traditional videoconferencing, mobile collaboration utilizes wireless, cellular and broadband technologies enabling effective collaboration independent of location. Where traditional videoconferencing has been limited to boardrooms, offices, and lecture theatres, recent technological advancements have extended the capabilities of videoconferencing for use with discreet, hand-held mobile devices, permitting true mobile collaborative possibilities.
- A **Network Operations Center (NOC)** is one or more locations from which network monitoring and control, or network management, is exercised over a computer, telecommunication, or satellite network.

- **QoS** - Quality of service is the description or measurement of the overall performance of a service, such as a telephony or computer network or a cloud computing service, particularly the performance seen by the users of the network.
- **Telepresence** - refers to a set of technologies which allow a person to feel as if they were present, to give the appearance of being present, or to have an effect, via telerobotics, at a place other than their true location.
  - Telepresence requires that the users' senses be provided with such stimuli as to give the feeling of being in that other location. Additionally, users may be given the ability to affect the remote location. In this case, the user's position, movements, actions, voice, etc. may be sensed, transmitted, and duplicated in the remote location to bring about this effect. Therefore, information may be traveling in both directions between the user and the remote location. A popular application is found in telepresence videoconferencing, the highest possible level of video telephony. Telepresence via video deploys greater technical sophistication and improved fidelity of both sight and sound than in traditional. Technical advancements in mobile collaboration have also extended the capabilities of videoconferencing beyond the boardroom for use with hand-held mobile devices, enabling collaboration independent of location. Telepresence robots can be also considered for social interactions during pandemic crisis such as COVID-19. The recent publication by [Tuli et al](#) [4] presented the design requirement of such robots.
- **Unified communications (UC)** is a business and marketing concept describing the integration of enterprise communication services such as instant messaging (chat), presence information, voice (including IP Telephony), mobility features (including extension mobility and single number reach), audio, web & videoconferencing, fixed-mobile convergence (FMC), desktop sharing, data sharing (including web connected electronic interactive whiteboards), call control and speech recognition with non-real-time communication services such as unified messaging (integrated voicemail, email SMS and fax). UC is not necessarily a single product, but a set of products that provides a consistent unified user interface and user experience across multiple devices and media types. In its broadest sense, the UC can encompass all forms of communications that are exchanged via a network to include other forms of communications such as internet Protocol Television (IPTV) and Digital Signage Communications as they become an integrated part of the network communications deployment and may be directed as one-to-one communications or broadcast communications from one to many. UC allows an individual to send a message on one medium and receive the same communication on another medium. For example, one can receive a voicemail message and choose to access it through e-mail or a cell phone. If the sender is online according to the presence information and currently accepts calls, the

response can be sent immediately through text chat or a video call. Otherwise, it may be sent as a non-real-time message that can be accessed through a variety of media.

- **Video Codecs** - A video codec is software or hardware that compresses and decompresses digital video. In the context of video compression, codec is a portmanteau of encoder and decoder, while a device that only compresses is typically called an encoder, and one that only decompresses is a decoder.
- **Videoconferencing** involves connecting several people in separate conference rooms or at their desks to allow them to carry out their day-to-day work together. **Telepresence** involves transmitting your presence to a remote location. **Note:** To summarize, older (legacy) h/w videoconferencing devices provided SD video resulting in lower-resolution, lower-quality video feed, while telepresence provided HD streams for crisp, clear video and a smooth, real-life presentation. The bandwidth requirement for SD was lower than for HD.
- **Virtual Meeting Room (VMR)** - each VMR has their own unique virtual address to reach them. They look a lot like email addresses, (ex: johnsmith@companyname.com). Participants can access a virtual room via nearly any device – WebRTC, desktop, tablet, mobile, video client, video endpoint, or by the phone (audio only).
- **WebRTC** is a free, open-source project providing web browsers and mobile applications with real-time communication via simple application programming interfaces.