

Improvement quality of remote video surveillance by using the cloud CCTV technology

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Abstract. This work is devoted to the improvement of the quality of the remote video surveillance channel with the help of cloud-based video surveillance technology based on the use of polarization orthogonal antennas MIMO

Keywords: CCTV, Wi-Fi, MIMO, mixed polarization, orthogonal data coding.

I. INTRODUCTION

CLOUD technology based infrastructures can present significant advantages: lack of the necessary internal computing infrastructure; eliminates the lack of qualified personnel to install, maintain and troubleshoot; reliability.

It is the supplier that takes care of backup, business continuity, backup and disaster recovery. Significant cost scalability of CLOUD-based architecture appears: lack of initial investment; expected costs; pay only for what you use; Facilitate the increase or decrease in computing capacity, storage capacity and bandwidth on demand.

It seems relevant to further develop this technology, taking into account the possibility of using remote surveillance cameras. The positive effect can be based on the use of signals of double polarization and corresponding antennas.

II. PROBLEM SOLUTION AND RESULTS

The main features of the technology are as follows. Regardless of geography Unlimited tenants Accessibility of cloud architectures. A constantly growing number of cameras. Monitoring people is not available or almost impossible. Real waste of resources. Interesting events - only a small part of the recorded video. The data obtained using video surveillance has grown to almost unmanaged volumes.

The common misconceptions of CLOUD are not just remote storage or access to applications through a web browser. Why is cloud video storage impractical? The size of the data produced. The cost of storage and transfer. Limited available bandwidth.

Moving mountains around, very rare, like a golden spot lost in tons of stone. Miners do not move mountains of stone around! They bring mining equipment close to where gold ore is mined. And now what? Working with big data, cannot rely on much more efficient image compression algorithms, should rely on the boundary storage of high-quality HD video, should use video content analysis (VCA) to filter important footage (miniatures or short clips), describe significant events using Effectively searchable metadata.

Extracting interesting information on the site. Understanding is local and communication only when necessary. Smart cameras can filter out important events to reduce the amount of data sent to the data center, even with limited bandwidth. Motion Tracking Blob Motion Tracking and Trajectory Smoke Detection Fire Detection Face Detection

Crowd Detection License Plate Recognition Detection of Lost and Found Motion Controls Controlling Origin, Blindness, Darkness Panic Detection Available Functions: Smart Products What you can do today.

Accurate image analysis: now possible, as it is done on RAW images from the sensor. Smart Products internal architecture. High resolution local storage and adaptive bandwidth external streaming. Broadband connection is not required. Bidirectional communication level, encrypted and automatic. Secure and reliable Internet connection Software for a virtualized data center with deployment in a private or public cloud. Control room wherever there is internet.

The further development of communication systems based on a double polarization signal is important. Transmit polarization diversity is proposed as an alternative to spatial separation in order to limit the aperture of the antenna arrays at both ends of the radio link. It is proposed to consider the possibility of using various combinations of polarization states of signals for radiation and reception. It is expected to receive a combination of polarization, when the fluctuations of the main signal of the channel polarization will be minimal.

Research results indicate different propagation conditions for different polarizations on two radiation patterns. Different orthogonal polarizations create different conditions for the improvement and development of tropospheric communication systems. Research results indicate the need to control the state of orthogonal polarizations depending on the distance and propagation conditions.

The investment and time required for the implementation of the described scenario, of course, is very long. Thus, it is important to develop effective ways of normalizing, combining and analyzing data from existing systems, while retaining most of the previous investments.

III. CONCLUSIONS

Research results indicate the possibility of increasing the communication range of a remote surveillance camera.

The basis is the study of various propagation conditions of radio waves at different polarizations. Different orthogonal polarizations create different conditions for the improvement and development of local communication systems.

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