

Airfield Migrates to Fiber Network Improving Communications Quality and Operations

Case Study

Challenge

Heavy rain, system shutdowns and degrading infrastructure

This airfield was facing multiple challenges impacting two of their communications networks when they first engaged TC Communications. Their existing copper infrastructure was degrading. The underground vaults would fill with water during heavy rain causing poor signal quality and, in some cases, shut operational systems down. In addition, their existing channel bank manufacturer was end of life and finding replacement parts was becoming exceedingly difficult.

They sought a single vendor that could integrate their array of communications devices and support migration of their entire communications system from copper to fiber. This included the radio network between the tower, weather command post and radar approach control (RAPCON). In addition, glide slope, localizer data and telephony for two runways had to be integrated with their headend at RAPCON.

Solution

Migrate ground data, phones and radios on a fiber network

TC Communications' engineers utilized their flagship JumboSwitch® Ethernet platform and their TC8800 series fiber optic multiplexer to meet the client's needs. We worked side by side with the client from solutions engineering to training and deployment. In addition, TC introduced product features, like dry contacts for example, to be utilized in the future for water and weather sensing functions that aid in facility operations and maintenance.

The TC8800 fiber optic multiplexer series was used to integrate glide slope and localizer data as well as multi-site telephony for transport between multiple buildings, radar approach control (RAPCON), the airfield public branch exchange (PBX), and the automatic terminal information service (ATIS).

Utilizing Analog Radio over IP, the JumboSwitch Ethernet platform enabled the transition to a fiber backbone while integrating radio communications for the entire airfield including command post weather, RAPCON and the tower.

Result

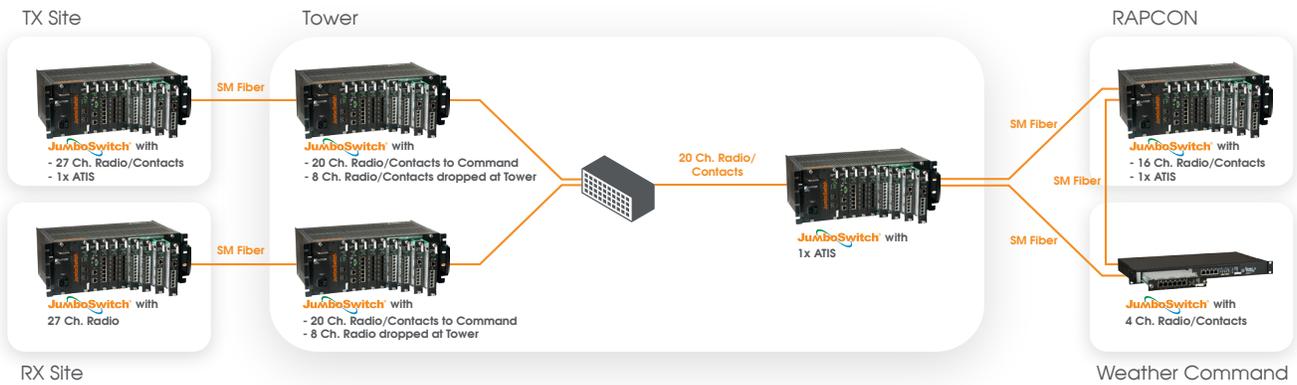
Improved communications quality and added diagnostics with minimal system interruption

The client was impressed by the ease and success of the deployment. In addition to saving a considerable amount of space by deploying a more compact form factor equipment, TC Communications successfully transitioned the entire network to fiber and improved communications quality as well.

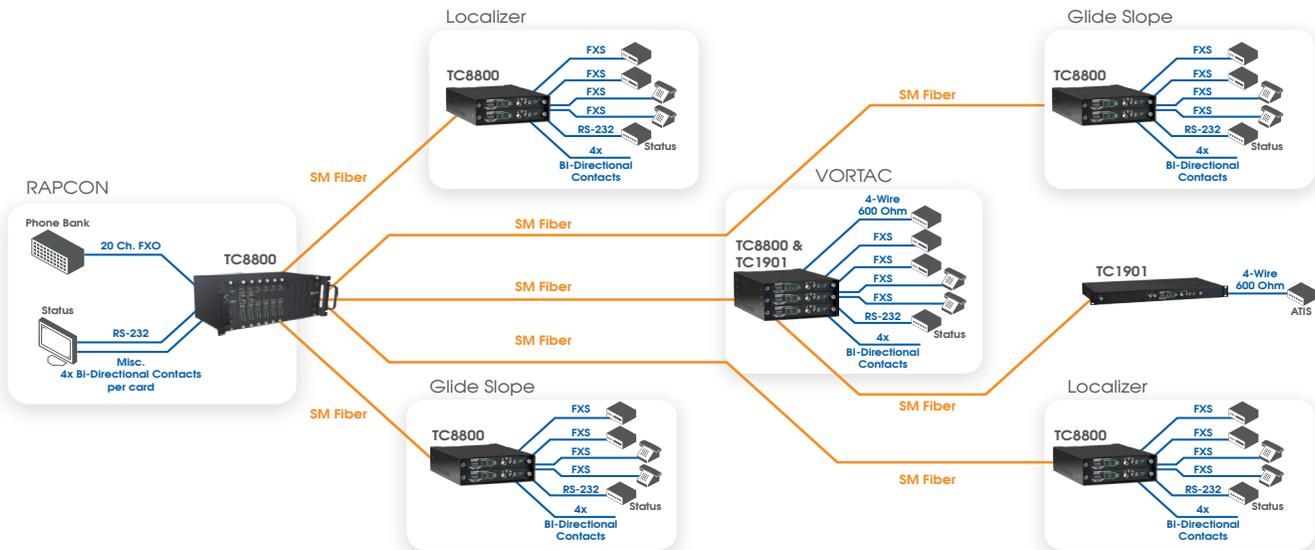
Accomplishing all of the client's needs through a single vendor focused on critical communications proved to be a significant advantage in ideation, deployment and maintenance.

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Above: JumboSwitch used to migrate radio communications for the airfield including command post weather, radar approach control (RAPCON) and the tower.



Above: TC8800 fiber optic multiplexer used to integrate Glide Slope and Localizer data as well as multi-site telephony for transport between multiple buildings, radar approach control (RAPCON), the airfield public branch exchange (PBX), and the automatic terminal information service (ATIS).

About TC Communications

TC Communications designs industry focused communications products in Power, Public Safety, Rail, Military, Aviation, and Oil & Gas. Our products assist in the evolution of legacy networks and specialize in bridging the gap in the transition to IP networks. Our mission is to design products that are easy to use and won't break. All TC products are designed, tested, and supported in Irvine, California since 1991.



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