QualityLogic

CASE STUDY
Fax Engineering Training

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The Situation

Voice over IP connection (VoIP) is rapidly encroaching on Public Switched Telephone Network (PSTN) communications, resulting in a dramatic increase in the diversity of equipment telecom carriers have to support. Faced with this new array of VoIP equipment, a publicly-held telecom carrier was challenged to maintain the quality of their service levels. One of their greatest challenges was maintaining the ability to transmit fax traffic over their IP networks. Fax over IP (FoIP) rapidly became a major focus for the service department.

Fax communication is based on the ITU T.30 protocol, which was created out of an array of proprietary protocols. The result is that many of its tolerances allow extremely wide variance, and fax implementations over the years have covered the gamut. This means it is quite possible that two fully T.30 compliant fax terminals cannot exchange pages.

This requires that gateway equipment manufacturers create PSTN interfaces that can accommodate all of the different interpretations of the T.30 tolerances prevalent in the installed base of fax terminals. It also means that configuring these devices requires data that falls into the realm of 'tribal knowledge': knowledgeable technical personnel may or may not know it, and it can't simply be looked up in a document.

The client's FoIP problem came to a head when a structural management change was followed by employee turnover in the service group. They lost two very senior service engineers and a number of technicians within a few months. These departing techs took with them the repository of fax tribal knowledge that the client depended on.

QualityLogic's Approach

Simply hiring replacement techs with the necessary fax expertise was a non-starter. The rarity of this knowledge and the fact that those who have it are already employed by companies who jealously guard these resources makes ready replacements all but unavailable. The company had previously purchased fax test tools from QualityLogic and approached us for help with this problem. They had the necessary tools, but they needed techs with the expertise to use them for in-depth exploratory testing, and who would understand the implications of the data the tools reported.

The client had immediate fax issues that needed quick resolution and a longer term need of in-house expertise to replace the fax knowledge they had lost. QualityLogic provided them with the assistance of an extremely experienced fax engineer to cover their short term issues and a fax protocol training class to bring their service techs up to speed on the fax protocol and its hidden issues.

The Solution

The QualityLogic fax engineer arrived on the client's site within a week of finalizing the terms of the project. He worked directly with the service department's staff, performing exploratory testing on specific fax and FoIP problems that had plagued them for several months. More importantly, he carefully explained his approach to each problem, and the protocol insights he used to solve it, providing on-the-job training for the client's techs. Often he did this through a post-mortem discussion of the problem, its solution and a strategy for avoiding future occurrences.

The engineer worked with the client's management to set up a date for the fax technology training class to get the maximum participation of their staff with a minimum impact on service operations. In the class, he presented a basic grounding in the T.30 protocol, including real-life examples of how it worked and how it had to be optimized. His experience with the client's service group beforehand allowed him to insert working examples from their day-to-day operations into the class presentations to make them more directly applicable.

The technical staff was able to return to work and score a much faster resolution to fax issues, as well as configure the FoIP equipment to solve recurring problems. They have access to the fax engineer by phone and email for help with particularly thorny problems, and have maintained an extended relationship with QualityLogic.

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For More Information
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