



California Department of Insurance

# Telecommunications Infrastructure Replacement Project

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**CALIFORNIA**  
**DEPARTMENT OF INSURANCE**



## Executive Summary

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In 2007, California had one of the worst wildfire seasons in its history. The devastation of the Southern California region included: 500,000 acres burned, 1,500 homes burned, and 950,000 people forced to become evacuees. The state government mobilized to meet this crisis; with employees working long hours to make sure fire victims knew what services were available to them. The California Department of Insurance (CDI) was no exception; using softphones to extend the hours of call centers, the CDI improved the quality of life for fire victims. The softphones operated within CDI's new telephony, a recently installed Voice-over-IP (VoIP) system.

Before VoIP, CDI used a legacy telephony that was first implemented in 1989. This telephony was difficult to maintain, offered inconsistent service quality, limited the department's flexibility, and offered poor service to constituents contacting CDI's two call centers – in other words, an appropriate CDI response to the California wildfires would have been near impossible with the legacy system.

In 2005, Governor Schwarzenegger created the California Performance Review. One part of this review stressed the need for a state agency or department to run a pilot on the feasibility of a VoIP phone system. After consulting with the users of CDI's telephony, including call center staff, CDI IT management found that their need to replace the existing telephony and the Governor's recommendation were very much in-line. This common ground was only a starting point; the real challenge for the CDI's IT staff would be managing the risk of a \$3.1 million project while coordinating all stakeholders.

Using open communication between business leaders at CDI, project managers, and vendors, the project management team was able to make the necessary upgrades to the network infrastructure to support VoIP, and the system went live in September of 2007, at 2.7 percent under budget.

CDI's VoIP telephony represents the best practices in Information Communications Technology Innovations because it betters day-to-day government operations of a Department that regulates an industry with over \$118 billion annually in premiums paid, improves accessibility to consumers of the CDI, and is scalable – giving CDI the flexibility to meet its every-changing business needs and the demands of California citizens.



## Description

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### **Business Problem**

In October 2007, Southern California experienced a confluence of factors – heat, winds, and draught – that led to the worst wildfires in the state’s history. Upwards of 500,000 acres were burned, 1,500 homes were destroyed, and approximately 950,000 people made into evacuees. Although it is difficult, one can only imagine what would go through your mind after days of living in evacuation centers or the home of a nearby relative, when you return to find all your belongings are now just a mass of twisted metal and ash. Surely you would feel sadness over the loss of your home, maybe anger or even relief that you finally knew, with certainty, what had transpired over the last couple of days. Eventually these feelings, whatever they may have been, would be joined by another – the overwhelming anxiety of “What, on earth, do I do now?”

When you buy a house, you plan on using it everyday; when you buy insurance, you plan on never having to use it. So when the time comes that a house can no longer be used, and an insurance policy must be used, you want to make sure that it is used correctly. This is difficult. Complications with insurance policies and insurance regulations can cloud the all important issues of how much money you will be paid for your loss, and consequently, how soon you will be able to get some semblance of your life back. When it comes to informing policy holders of their rights and policing an industry that receives \$118 billion annually in premiums, Californians turn to the California Department of Insurance (CDI). And, when the CDI’s services were most needed, they met the demand as CDI CIO Roy Simpson said, by “Rolling out the softphones”.

The softphones that Simpson referred to are software that enables Voice over IP (VoIP) from a PC. Using this technology, workers at the CDI’s customer call centers were able to log extended hours, offering valuable advice and information and processing claims, from their homes over a DSL connection. When we think of wildfire relief, we rarely think of IT, but in this case, CDI IT was so integral to business practices that an emergency response would have been nearly impossible without them.

Although the softphones were invaluable to the wildfire relief efforts, they and their supporting technology were not acquired specifically for that purpose. They were part of a CDI-wide initiative called the Telecommunications Infrastructure Replacement Project (TIRP) which upgraded the existing telephony with a system that combined voice and data over the same transport network.

The legacy telephony brought with it significant problems for the CDI. First, it was installed in 1989, and while there are a number of fine things from that year, a telephony system that is no longer supported by the manufacturer is not one of them. Replacing parts of the legacy system meant scavenging from other departments or buying refurbished ones on the Internet. Maintenance on the legacy system was not the only problem; keeping the legacy system also represented an opportunity cost. Not replacing the telephony meant not hedging against obsolescence, forgoing increases in functionality including access by constituents, and limiting the flexibility of the Department. If these



problems would have still existed during the 2007 wildfires, CDI would not have been able to provide the level of service it did to wildfire victims.

### **The Forming and Implementation of TIRP**

When the Governor of California released his 2005 California Performance Review, he stressed the need for a state agency to study and run a pilot on the feasibility of a VoIP phone system. After consulting with the users of CDI's telephony, including call center staff, CDI IT management found that their needs and the Governor's recommendation were very much in-line. This common ground was only a starting point; the real challenge for the CDI's IT staff would be managing the risk of a \$3.1 million project while coordinating all stakeholders – including end-users, constituents, and vendors.

The act of forming ideas into process – that is, the act of innovation – does not come without risk. Even the most effective management team can not completely eliminate risk, but by keeping lines of communication open between the CDI project managers, the business executives at CDI and the vendors, the CDI IT staff was able to mitigate these risks and exhibit the best practices for implementing such a large project.

One problem that arose and was addressed was that an analysis of network standards and software versions needed to support Cisco's VoIP system showed that CDI was in need of a network upgrade. A problem of this scope has the ability to derail a project, but open communication between all stakeholders and analysis of the benefits of the VoIP led to the business decision to approve a \$482,000 network upgrade to continue the project. The openness of the governance process and the project management allowed for a decision like this to be made and for the project to still come in at 2.7 percent under its \$3.1 million budget.

### **Description of the Solution**

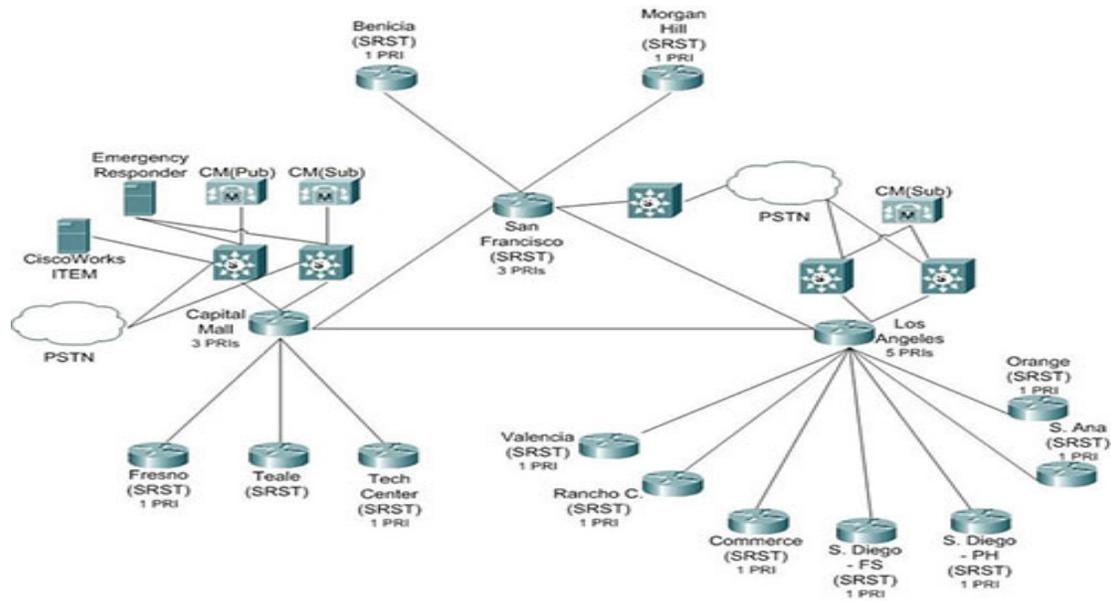
The technology used to support the TIRP project includes many different hardware servers, Cisco networking equipment, AT&T Wide Area Network (WAN) dedicated services, Cisco software applications, and several third-party applications.

The network infrastructure included Cisco's voice gateways with Primary Rate Interfaces (PRI) at all the locations and upgrades to the Cisco routers and switches to support Power over Ethernet, Quality of Service and Virtual LAN's for voice and data.

Other applications include: Exony for ad-hoc reporting for the contact centers, IPcelerate for presence and paging capability, Nuance for text-to-speech synthesis and speech recognition in the Interactive Voice Response system (IVR), and Knoahsoft for contact center agent call recording and evaluation.

The three main offices are connected by T1 lines with each satellite site being connected by a T3 line.

The network design is shown in the following figure.



In September 2007, CDI deployed the VoIP telephone system, replacing the telephony for more than 1,300 users in 14 distinct locations.

### Significance

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The ultimate goal of any IT project, particularly ones that upgrade telecommunication systems, is that the project brings tangible benefits to the consumers of the Department's services – in this case, citizens and insurance companies. VoIP brings significant benefits to these two groups in two distinct ways.

First, VoIP improves CDI's ability to perform its core processes: protecting California's insurance policy holders, conducting examinations of insurance companies and their procedures to ensure their operations are consistent with the California Insurance Code, auditing insurance companies to ensure they are financially able to meet their obligations to policyholders and claimants, investigating complaints and responding to consumer inquiries, reviewing and approving insurance rates, and combating insurance fraud. This increase in CDI performance means policy holders and insurance companies receive better services. These are the ways that VoIP and its corresponding infrastructure have improved CDI, giving corresponding benefits to CDI constituents:

- VoIP gives CDI a distributed, scalable enterprise IP call-processing system with 99.999 percent availability that currently supports more than 1,300 users.
- VoIP improves security, interoperability, capability, supportability, and productivity.



- The new telephony lets users know the presence capability of other user (available, busy, or out of the office) before initiating a call: this saves CDI workers time.
- There is now an integration of e-mail, voice mail, and fax mail at the desktop (unified messaging). Retrieval through both telephony and graphical user interfaces leads to greater staff productivity.
- Quality of Service ensures that call quality is maintained throughout the CDI internal network

Significant benefits were not just communicated to the public by the improved internal workings of the CDI, but also in the myriad of ways that VoIP improved CDI's interactions with stakeholders.

- VoIP gives better service to consumers calling the CDI's call centers. Full-function Automatic Call Distribution (ACD) for the CDI centers in Los Angeles and Sacramento means that now, when consumers call the CDI, not only will their calls never be dropped (because of the network is made redundant by the public switched telephone network), but they would be given updates on their position in the queue and wait-time announcements. Additionally, VoIP increased reporting capabilities and supervision capabilities. The sheer mass of calls to the two call centers, approximately 450,000 a year for each center, requires a customer-centric, redundant telephony infrastructure.
- Interactive Voice Response (IVR) allowed CDI to set up self-service applications for California Insurance agents with licensing issues, including license renewals, status updates, and requirements. Of the 900,000 calls CDI's two call centers receive a year, 275,000 are answered by the IVR system.
- Just like what happened with the Southern California wildfires, call center agents can now provide onsite support to the people of California during a disaster.

### **Public Benefits**

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The greatest public benefit of this project was that it gave a working, cutting-edge telephony for a Department that services 38 million Californians and polices an industry that receives \$118 billion in premiums a year. Not only did it hedge the telecommunications of CDI against a rapidly approaching obsolescence, but it improved its business operations and the level of service CDI could provide for its constituents. All three groups of stakeholders, CDI employees, California citizens, and California Insurance agents greatly benefit from having a telephony that facilitates better production from the CDI.



The VoIP solution to the problems of CDI's legacy telephony also allowed the Department to avoid a number of costs. The department now saves \$80,000 annually on long-distance calling, \$60,000 a year on the replacing of T1 lines with T3 lines between Sacramento, San Francisco, and Los Angeles, and \$110,000 a year in line-lease payments for the Los Angeles call center. That totals \$250,000 a year in cost avoidance, which means the initial investment of just over \$3 million would be recovered in cost avoidance alone in a little more than 12 years.

There were also a number of non-financial benefits realized in the deployment of the VoIP system. As seen at the beginning of this submission, the CDI can now turn their call centers into onsite support to the people of California during a disaster. This gives CDI the flexibility to "ramp-up" its call center capacity when it is needed the most.

Additionally, CDI's experiences initiating a VoIP system can be seen as a yard stick for other agencies in the State of California. The management of the project – weekly meetings with vendors, systems analysis, open communication between project managers, and the constant testing and retesting – can be used as a tutorial for other California state agencies looking to upgrade their telephony. This will help avoid future implementation costs for other California State Departments.

The October wildfires tested every aspect of California state government. It tested our ability to coordinate a massive fire-fighting and relief campaign. It tested the limits of our technology and the skills of our workforce. It tested the limits of our caring; would we be willing to spend an extra hour answering phone calls from distraught homeowners? Would we care enough to forgo an extra hour of dinner time to make sure victims of the fire were given the best possible care? Would our Information Communications Technology limit the bounds of our work, or would it facilitate a more efficient and impactful work schedule? And, most importantly, when the urgency of the moment faded, and color of the sky returned from an orange haze to a pristine blue when – literally and figuratively – the smoke cleared, would we still be there to offer a helping hand?

For Roy Simpson and the California Department of Insurance, the answers to all these questions are answers to be proud of. The charge of giving insurance policy holders information and guidance as they file claims with their insurance companies was and is currently being met. And this important task isn't being hindered by an obsolete telephony – an obsolete way of doing business. It is instead being facilitated by an Information Communication strategy that highlights and stresses the importance of efficient work and customer service – an Information Communication strategy that is cost-effective in normal times and absolutely critical under the most abnormal circumstances. Simply put, an Information Communication strategy that embodies the best practices of the industry, and it all came in under budget!