USING A PRIVATE UNIFIED COMMUNICATIONS CLOUD TO MODERNIZE A HIGHLY SECURE AND ADVANCED RESEARCH INSTITUTION

This National Laboratory specializes in multidisciplinary research involving both science and technology. Over 10,000 employees and contractors are based on the organization's 43-square-mile campus, which encompasses more than 600 buildings.

The Challenge

For many years the Lab's sprawling facilities were supported by a large telco-type switch built on 1980s-vintage TDM technology. The system took up an entire floor of an office building and had twice the capacity the Lab actually needed. It also required a team of about 20 engineers just to provide maintenance.

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The Lab's IT team looked for a more modern and cost-effective approach to communications that could transition the campus from TDM to voice over IP, leveraging the Lab's own supercomputing network. The solution would need to support employees and contractors campus-wide, including critical call center and help desk teams. It also would need to interoperate seamlessly with various network components and applications the Lab already owned — many of them home-grown.

The Solution

One of BroadSoft's national service providers designed a private cloud solution that replaced the 1980s-vintage switch with a highly scalable BroadSoft BroadWorks platform designed for modern voice over IP applications. BroadWorks is a proven software suite used by leading service providers, businesses and organizations around the globe. It is based on industry-standard SIP protocols and open interfaces — allowing the Lab to select its choice of network components and to protect its investment in those it already owned.

Solution Components

- BroadSoft BroadWorks® Software Suite
- Oracle Session Border Controllers
- AudioCodes TDM/SIP Gateways
- Polycom IP Phones
- TEO Secure Handsets

The Impact

Adopting BroadSoft BroadWorks has delivered significant benefits to the Lab's IT team and the organizations it supports.

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- **Cost savings.** The new voice over IP platform has saved the Lab several million dollars annually, freeing up funds to support its strategic mission.

- **Smaller footprint.** While the former switch took up an entire floor of a building, the new high-efficiency BroadWorks platform requires just two compact racks of equipment.

- **Reduced support demands.** Because the BroadWorks platform leverages the Lab's existing network, resource demands for telephony support have been reduced, contributing to the cost savings the organization has experienced.

- **Improved communication security.** Communication traffic now benefits from the high-security features of the organization's supercomputing network, providing an additional layer of protection the organization previously lacked. The IT team also can tailor security levels in response to the needs of the many organizations and projects on its campus.

- **Improved flexibility and choice.** With a standards-based, hardware agnostic platform, the Lab can add systems and endpoints to meet the precise needs and security requirements of the various organizations and high-profile visitors on its campus.