

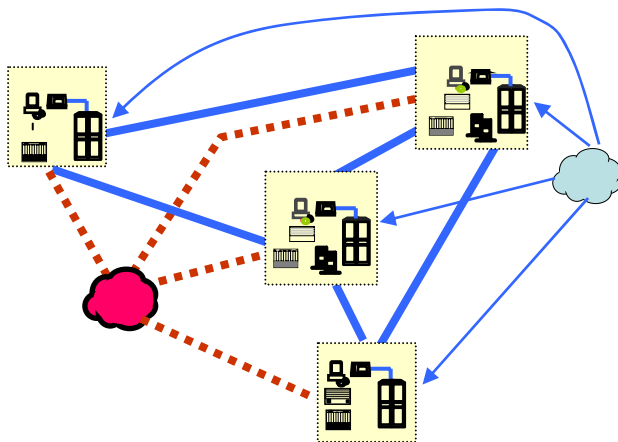
Yes, There Is An ROI!

A Case Study of Cost Reduction Through IP

In previous columns, I've outlined some of the components that make up the business case for IP in multi-site contact centers. In many cases, the most compelling reasons relate to new functionality or better ways to meet goals. Sometime, however, there are also clear cost implications.

Here's a quick case study of the costs from implementing IP-based system components and network services for one client, whose configuration is representative of many we see. We analyzed the cost, functionality, and performance implications of a number of alternatives to a baseline of upgrading the current architecture. The results were that significant cost reductions could be realized by moving to an IP-based infrastructure.

Baseline. The company has four contact centers, geographically distributed around the United States. Each center receives inbound calls directly from the PSTN, and point-to-point trunks provide capacity for load balancing across the four sites and for on-net calls. Data connectivity is provided through frame relay from each site to both the main and back-up data center (co-located with Centers 1 and 2) using permanent virtual circuits. An important factor in this situation is that the network design was relatively robust and recently equipped.



The trigger for considering alternative configurations is that each of the four switches, one per location, requires an upgrade. Analysis shows that completing the upgrades and continuing to run the present network configuration produces a five-year life cycle cost of \$5.96 million. Against this baseline, we arrayed a number of different alternatives, and evaluated the financial impact. Here are three of those scenarios.

Convert Backbone to IP. In this scenario, the PSTN is still linked directly to switches at each location, as in the baseline case. Each center retains TDM circuits internally between the switch and the agent desktops. The voice and the data backbone networks linking the four sites are

replaced by a quality-of-service enabled WAN providing IP-capable connectivity. IP gateways are added to the switches.

Convert Backbone to IP Using Compression. Similar to the previous scenario, except that voice compression is used on the backbone network linking the four sites. The effect of this change is that the capacity requirements for the backbone network are reduced approximately 50 to 65 percent.

Reconfigure to Two Hub and Two Remote Centers. The third scenario changes the configuration in a number of ways, and begins to take full advantage of IP's capabilities.

- Centers 3 and 4 become IP-based remote centers. There is no direct PSTN link (although backup redundancy was considered), and no switch at these locations. All connectivity is through the IP network, and there are IP phones on the agent desktops.
- Centers 1 and 2 become IP-enabled hubs. The legacy switches are upgraded and gateways are added to enable IP links. Agent phones are connected to the switch through traditional TDM.
- PSTN circuits terminate at Centers 1 and 2. Calls for Centers 3 and 4 are routed over the IP network under call control at the hub.

Cost Analysis. The following table compares the systems and network costs of the baseline and these three scenarios. During the project, there were additional scenarios considered, and the cost analysis took into account additional factors, such as internal support staff savings and some common PBX upgrade charges. Here are the results:

| Scenario | Description | One-Time Costs | Recurring Costs | 5-Year Costs | Percent Reduct. |
|-------------------|--------------------------|----------------|-----------------|--------------|-----------------|
| Baseline (not IP) | Semi-meshed network | \$252 k | \$1,142 k | \$6.0 M | |
| 1 | IP Backbone | \$359 k | \$985 k | \$5.3 M | 12% |
| 2 | IP Backbone, compression | \$330 k | \$703 k | \$4.3 M | 28% |
| 3 | Remote centers via IP | \$413 k | \$668 k | \$3.8 M | 37% |

The analysis shows clear cost advantages in moving to IP. And the greatest cost reduction is achieved by moving to a hub-and-remote configuration, and using IP's capabilities to add new functionality to the contact center operations. The other, softer, benefits that I've described previously are just icing on a nice cost picture. As I've written before, it's this "icing" that can be the basis for long-term, transformational changes of how contact centers get business done.

But since near-term ROI remains a critical factor for many decisions, this sort of analysis may be what's needed to get a project moving. While this case is specific to this particular company and its situation, we find that similar results are often possible.

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