

Beneficial Expands Data Center Capacity, Gains 74% ROI with APC's InfraStruXure™

IN BRIEF

- **Goal:** For the Beneficial Financial Group to expand its data center capacity in order to add new servers while increasing their availability.
- **Solution:** APC's InfraStruXure™ – On Demand Architecture for Power, Cooling, & Environmental Management
- **Results:** A threefold increase in rack space to support growth for the next five years; two layers of redundant power backup; and enough available electric power to support as many servers as Beneficial requires. On an investment of only \$18,500, Beneficial achieved a five-year net benefit of \$68,120, driven by maintenance and service savings, and the increased availability of mission-critical applications. An annual ROI of 74%, a payback period of 10 months, and an annual value per active user of \$151.

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The public expects absolute reliability from their insurance companies – and in order to provide them with that sense of security and reliability, insurance companies need to have continuous access to their most important data and mission-critical applications. Additionally, in order to grow, insurance companies must to be able to add new servers whenever they are needed, accommodating new data and applications. So when the Beneficial Financial Group needed to increase the capacity of its data center with a cost-effective solution, it chose APC's InfraStruXure™ because the system increased the availability of electrical power to the data center, expanded the number of server racks, and supplied reliable power backup, while holding down maintenance costs and providing room for expansion for five years.

NOTE: This case study was authored by the Case Study Forum. The Case Study Forum is dedicated to writing and publishing case studies for the IT community. The financial analysis that appears in this case study was performed by ITCentrix, the premier software and services company for measuring and managing the business value of information technology investments. Results shown are not a guarantee of equivalent performance.

Benefits

Objective	Benefits Achieved
Reclaim useable space for IT equipment	InfraStruXure™ has tripled the number of available IT racks in Beneficial's data center.
Scalable architecture	With InfraStruXure™, Beneficial has integrated scalable architecture that can support data center growth for five years.
Monitor and proactively manage the power system	InfraStruXure™ includes software and hardware that allows for proactive monitoring from the UPS down to the receptacle in the rack. This software integrates into their existing management system.
Flexibility	InfraStruXure Multi-Branch whips enable Beneficial to easily reconfigure its data center and servers whenever needed. InfraStruXure™ is modular, so that more capacity can easily be added.
Reliability and power	The InfraStruXure™ UPS provides Beneficial with reliable backup and has built-in redundancy.

About Beneficial Financial Group

The Beneficial Financial Group, one of the oldest insurance companies in Utah, was incorporated in 1905 and is solely owned by Deseret Management Corporation. The company offers a variety of life insurance products, employs 225 employees agents in its main office, and over 1,400 career agents and affiliated independent agents throughout the Western United States. As of the end of 2002, it had over \$2.3 billion in assets.

Beneficial has always operated profitably, a rarity among insurance companies, and has paid claims even when not required by law. This strong commitment to its policyholders was never more evident than during World War I and World War II when it paid all claims for insureds who died serving their country, at a time when many other life insurance companies invoked policy war clauses to deny such payments.

“We were at a point with our data center where we could only add one or two more servers. Our electrical source was adequate, but the problem was that we did not have the infrastructure to distribute it throughout the data center.”

GEORGE DRYER
TELECOMMUNICATIONS SPECIALIST

The Challenge: Expand Data Center Capacity

Beneficial had a data center whose electrical wiring and infrastructure was designed at a time when the company’s applications and computing base was powered by a since-retired IBM mainframe. In 1996, the company moved to a local area network, with applications and databases powered by PC-based servers.

At the time of the changeover, the physical layout of the data center was adequate. But as more servers were added, continued growth became a problem. Although the line into the data center was capable of carrying adequate electricity, the infrastructure of the data center itself was not capable of carrying the electricity to all the servers. The center had been built to house a single mainframe, not many smaller servers, and so did not have enough lines to serve them all. Additionally, Beneficial did not have enough racks to house additional servers, and it was also looking for a better UPS backup solution.

Because of these problems, even though the company needed to be able to grow its data center, it was limited to adding only one or two more servers.

What Beneficial Looked For in a New Solution

When deciding on a solution to its data center infrastructure problems, Beneficial was looking for one that would do the following:

Beneficial chose APC's InfraStruXure™, because the solution can provide electricity to all of the company's servers without having to re-engineer the data center; can increase the number of server racks by 300%; can monitor and manage of each individual server remotely; and can be installed with virtually no downtime.

- **Provide adequate power to all of its servers, without having to re-engineer the data center.** One of the solutions that Beneficial considered would have required that it re-engineer its data center transformer as well as redo all the electrical lines in the data center. It was looking for a solution that would require neither.
- **Provide more server racks.** The data center did not have enough racks to house more servers, and so Beneficial was looking for a system that would give it room for growth.
- **Offer better monitoring and management.** The data center's existing infrastructure did not allow Beneficial to monitor and manage power to the servers or monitor the battery levels of the UPS. It wanted a solution that would allow for both – and ideally, one that would provide for remote management.
- **Installation with a minimum amount of disruption and downtime.** The servers power all of Beneficial's mission-critical applications and data. Beneficial could not afford significant downtime while the data center was being re-engineered, because that would mean that its business would essentially come to a halt during that time.

Beneficial Chooses APC's InfraStruXure™

Beneficial was faced with the choice of buying a larger version of its existing power conditioner/UPS, or else buying an entirely new system. If it had purchased a larger version of its existing unit, it would have had to re-engineer the electrical infrastructure of its data center, leading to significant downtime.

Beneficial chose APC's InfraStruXure™, a manageable, modular system that integrates power, cooling, management, and services within a rack-optimized design. The universal rack design means that servers from different manufacturers can be mixed and matched. Because the unit distributes electricity directly within its rack design, the electrical infrastructure of the data center does not have to be re-engineered. The system's built-in intelligence allows servers and power backup to be monitored remotely. The system gives Beneficial at least five years of data center growth.

"APC helped complete our installation extremely quickly. We were thinking in terms of days; APC was thinking in terms of hours."

GEORGE DRYER
TELECOMMUNICATIONS SPECIALIST

“What caught our eye was that all of the APC customers we spoke to were happy with their APC solution. After we bought one, we got great support from the company. They kept every promise to us and did everything they said they would. If I had to do it all over again, I'd still buy from APC.”

GEORGE DRYER
TELECOMMUNICATIONS SPECIALIST

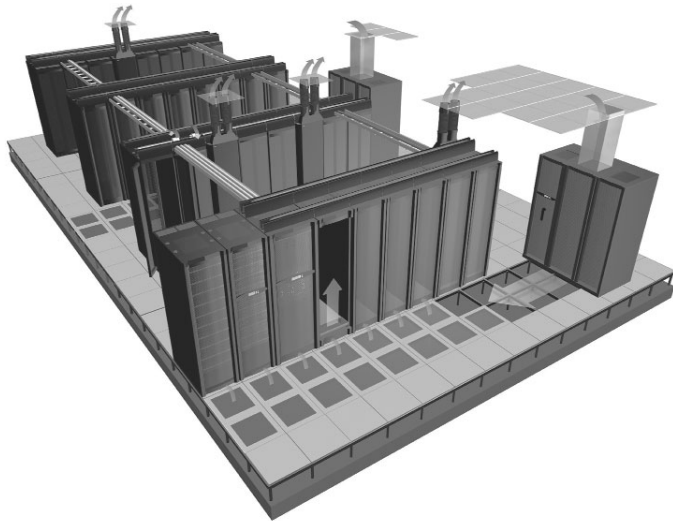
Beneficial was also impressed with APC's reputation for support, which was proved by APC shipping an InfraStruXure™ system from California to Utah before Beneficial had made its decision to buy, allowing the insurance company to examine the system before deciding whether to buy.

Installation was quick enough so that Beneficial suffered no downtime. The system was installed over a weekend, so that by the time employees returned to work, the data center was up and running.

An Inside Look at APC InfraStruXure™

Beneficial chose a Type B APC InfraStruXure™ architecture: On demand architecture for power, cooling and environmental management. Figure 1 shows how it works.

FIGURE 1: HOW INFRASTRUXURE™ WORKS



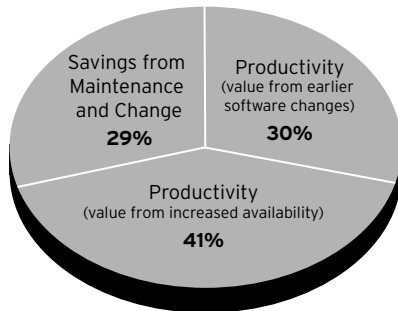
Because power distribution for InfraStruXure™ is self contained and pre-configured at the factory, it does not require Beneficial to re-engineer its data center's electrical infrastructure. Each rack has the capability of 6kW of power at 120V or 208V of power delivered with up to 42 receptacles. APC rack systems utilize “zero U” rack power distribution units allowing for easy access to servers, and built-in intelligence allows for remote monitoring of power to each individual server and of the battery levels of the UPS.

The Bottom Line for Beneficial

A detailed analysis of the implementation shows that Beneficial will gain a cumulative five-year net benefit of \$68,120 from the project. It will yield an annual ROI of 74% and has a payback period of ten months. The annual value per active user is \$151.

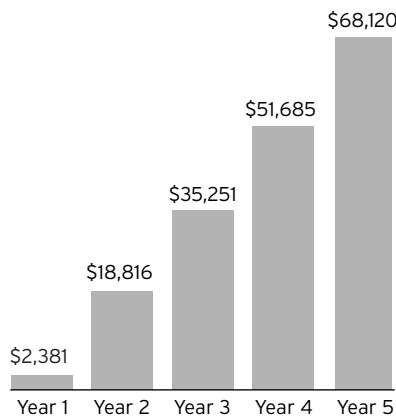
Beneficial's bottom line for the project: On an investment of only \$18,500, Beneficial achieved a cumulative five-year net benefit of \$68,120, an annual ROI of 74%, a payback period of ten months, and an annual value per active user of \$151. Even more important is that the insurance company can handle all its data center needs for the foreseeable future and has room to grow, as well as several levels of redundant power backup and the ability to monitor servers remotely.

The benefit of \$68,120 is made up of maintenance and service savings and increased user productivity due to the greater availability of applications for users, and the ability to add new applications more quickly.



Cumulative 5 Year Net Benefit = \$68,120

On an investment of only \$18,500, Beneficial achieved a cumulative five-year net benefit of \$68,120, an annual ROI of 74%, a payback period of ten months, and an annual value per active user of \$151.



Cumulative Net Benefit

Most important for Beneficial, the data center can now be expanded, where previously the data center only had the capability to add one or two new servers. Electricity is now easily distributed to all the racks and servers, and the company has expanded its data center capability by 300 percent. It was able to install InfraStruXure™ without any downtime – and if it had chosen to instead buy a larger version of its existing unit, the data center would have had to have been powered down for from five to seven days.

Because InfraStruXure is modular, it can easily be expanded as Beneficial's data center demands grow. The system includes a built-in UPS, and Beneficial has been able to use its previous unit as a redundant power backup, giving it several levels of security.

The following chart provides a detailed, five-year analysis.

BUSINESS ANALYSIS OF THE SOLUTION

Project Summary						
Annual ROI for APC UPS		74%				
Payback Period for APC UPS (months)		10				
Cumulative Five Year Benefit for APC UPS		\$68,120				
Annual Application Value/Active User		\$151				

Additional Project Costs	Startup	Year 1	Year 2	Year 3	Year 4	Year 5
Equipment	\$27,500					
Installation	(\$9,000)					
Total	\$18,500					

Benefits	Year 1	Year 2	Year 3	Year 4	Year 5
Savings from Maintenance & Change	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
Productivity (value from increased availability)	\$9,123	\$6,569	\$6,569	\$6,569	\$6,569
Productivity (value from earlier software changes)	\$6,758	\$4,866	\$4,866	\$4,866	\$4,866
Total Benefits	\$20,881	\$16,435	\$16,435	\$16,435	\$16,435

Financial Analysis	Year 1	Year 2	Year 3	Year 4	Year 5
Net Benefit	(\$18,500)	\$20,881	\$16,435	\$16,435	\$16,435
Cumulative Benefit	(\$18,500)	\$2,381	\$18,816	\$35,251	\$51,685
Net Present Value	\$49,061				
Annual ROI	74%				
IRR	109%				
Payback Period(months)	10				

Key Performance Indicators (KPIs)

Annual Application Value/Active User \$151

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Beneficial Looks to the Future

“Our CIO has been very impressed with the unit. We particularly appreciate the built-in intelligence and integrated power. I wouldn’t hesitate recommending it to anyone.”

GEORGE DRYER
TELECOMMUNICATIONS SPECIALIST

With its data center able to handle the company’s needs well into the future, Beneficial can continue to grow, while at the same time continuing to service the needs of its existing customers. Looking ahead, because of the greater availability of power to the data center, it is now considering buying a Storage Area Network (SAN). Previously, the data center was not capable of housing a SAN, but with APC’s InfraStruXure™, Beneficial is free to choose whatever storage solution it requires.