

# APS Partners with LRS on Mainframe / DR Project

## The Customer

Arizona Public Service (APS), the largest affiliate of its parent company Pinnacle West, generates, sells, and delivers electricity and energy-related products to consumers and businesses throughout the State of Arizona. APS is focused on creating value to their customers and is committed to providing quality, uninterrupted energy to its customer base.

## The Need

The APS computing environment consisted of two IBM 9672 processors running z/OS 1.4 in a Parallel Sysplex configuration utilizing a 9674 coupling facility and two 9037-002 Sysplex Timers.

In addition, shared I/O included a 2105/800 ESS, a 3494/B10 Virtual Tape System (VTS) and a 3494 standalone tape library. Both systems utilize 9032-005 ESCON directors to manage the connectivity between the shared devices.

APS' computing infrastructure required hardware and software



updates in order to

support their long term goals. APS recognized the need to refresh existing technology to meet the demands of its end user community and improve the utility's Disaster Recovery (DR) readiness through the implementation of a remote DR site. To help resolve their technological and infrastructure needs, APS developed a close partnership with Levi, Ray & Shoup, Inc. (LRS).

## The Solution

LRS IT Solutions, a Premier IBM Business Partner, worked with APS and IBM to assemble a team of professionals focused on solving APS' business needs.

LRS provided project management and technical staffing to augment a very talented

APS team in order to implement a comprehensive solution which met APS' long-term goals and business requirements.

APS was faced with critical business requirements and challenges, driving the need to make significant changes to their centralized computing hardware infrastructure.

Requirements that ranged from the need to add computing capacity at a moments notice to protecting APS and its user community from the effects of a disaster.

Just as important was the need to take advantage of available hardware and software technology enhancements as well as efficiencies through the implementation of new products. These included:

- z/OS enhancements
- 64 bit Architecture
- FICON capability
- Linux Software
- Integrated Console Controller
- Integrated Coupling Facility
- OSA technology

With these specific initiatives in mind, APS began an aggressive project to update its two primary production mainframes with new IBM z/890 and implement a DR Plan to fully protect its investments. The APS disaster recovery configuration also included the installation of a third IBM z890 mainframe, a 2105-800 and a 3494 Tape Library/VTS.

The APS project was highlighted by implementing hardware and software solutions to enable "Capacity Back-up" and "Capacity-on-Demand" capability. These features enabled APS to run their operations from a remote site or increase processing capacity as needed. The project also included the enablement of new technology enhancements.



## Business Requirements

- Update computing environment to meet future business needs
- Improve Disaster Recovery readiness with the implementation of a remote hot site

## Solution

- Replaced old IBM processors with new IBM z890s
- Implemented Tier 6 Disaster Recovery hot site

## Benefits

- Running production on new hardware, APS is now set-up for future growth
- Met all requirements associated with data integrity and realized many efficiencies as well as a cost savings

## For More Information

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*“LRS and APS were able to implement an end-to-end, cost effective solution that met all of APS’ current and future business requirements.”*

Working closely with IBM, and the staff at APS, LRS assisted in the designed of a migration path to implement the new hardware and software with minimal outages and provided training for new products such as z/VM and Linux. By implementing z/VM and Linux, APS took advantage of the z890’s IFL and the ability to move its workload to an efficient and less costly Linux environment.

#### **The Result**

Providing hardware, software, technical services and project management, LRS and APS were able to implement an end-to-end, cost effective solution that met all of APS’ current and future business requirements. APS now runs production on two new z890 mainframes, replacing the outdated IBM processors.

APS fully implemented a Tier 6 DR solution which includes an IBM z890-110, with On-Demand CBU functionality, PPRC between production and DR DASD and Peer-to-Peer between production and DR VTS Tape Libraries to maintain data integrity with the DR site. This will allow for full recovery in the event of a disaster. The project implementation was completed ahead of schedule, and APS was able to meet all of its goals and realized many efficiencies and cost savings with this seamless solution.

#### **About LRS**

LRS IT Solutions, an IBM Premier Business Partner, has more than 25 years experience in providing businesses customized hardware and software solutions. Our experienced and knowledgeable staff specializes in server consolidation, storage management, and business continuance solutions. We’re dedicated to helping businesses protect their data as well as keep operations running through unplanned downtime. LRS consultants follow proven methodologies to complete projects on time and within budget.