PRINCETON CONSULTANTS

Information Technology and Management Consulting

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Establishing Technical Recovery Procedures for a Class-I Railroad

All businesses face the constant risk of catastrophic events that threaten to interrupt their operations. Severe weather, fires, or outages of required infrastructure such as communications pipelines can happen at any time, potentially without warning.

Railroads provide essential services for North America's commerce. Rail executives know that failure to prepare for disasters could lead to outages that last days or longer, and that immediate, appropriate steps are required when a disaster occurs.

CHALLENGE

A North American Class-I railroad was upgrading and replacing its dispatch system, the backbone of its operations. Leaders sought thorough and accurate disaster recovery procedures to coincide with the implementation of the new system. Timing was urgent: preparation to respond efficiently to a business interruption was needed by the start of the hurricane season.

Replacing the dispatch system caused extensive changes to the organization's overall technical architecture. It was necessary to fully understand and document the new technical architecture so that recovery procedures were optimized for the capabilities of the new systems and architecture upgrades. Moreover, the relevant existing recovery procedures were decentralized and incomplete.

APPROACH

The Princeton Consultants team researched the technical architecture of the dispatch system and its dependencies, and various ways the system could fail—including both localized technical failures and broader regional or disaster failure scenarios. This phase featured extensive interviews of the railroad's subject matter experts.

It was vital to make the recovery procedures easy to understand and maintain. The team created a "cookbook" of technical recovery procedures. This "cookbook" approach allowed for the recovery procedures for complex scenarios, such as a hurricane, to be constructed from those for simpler, more common and well-understood

scenarios, such as the failure of a single server or database.

The team built an interactive visualization tool to illustrate the architecture of the system both in the intended state and in various key failure scenarios. This tool yielded a better understanding of the architecture and the real impact of various failure scenarios on the railroad.

Lastly, the team designed test plans for complete, periodic disaster recovery exercises.

RESULTS

With the technical recovery procedures established, the railroad was well-positioned to respond to unexpected outages of any magnitude. Since the project completion, the procedures have remained easy to maintain, and regular maintenance and testing is ongoing. The railroad's executives use the plan and "cookbook" as the model for disaster recovery in other areas of the enterprise.

ABOUT PRINCETON CONSULTANTS

Princeton Consultants helps railroad executives improve and refine strategy, process, organization and technology. We conduct comprehensive DR / BCP planning to assist risk management initiatives.

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