Honeywell’s Experion Backup Control Center (BCC) solution automates the key elements of disaster recovery, making it possible for industrial operations to provide faster, more reliable, and more affordable disaster recovery protection than previously possible. Experion® PKS – The Knowledge to Make it Happen.

Upstream assets, oil & gas pipelines and other industrial operations rely heavily on automation systems. This critical infrastructure includes, as an example, pipelines that transport millions of dollars of gas each day and serve the industries in the energy supply chain and essential public utilities.

Delays in restarting industrial automation systems after a disaster can be costly for pipeline operators, among other end users. Outages may result in millions of dollars of lost revenue and/or put lives at risk. If the control room is unavailable, then the pipeline must be shut down in its entirety, with both upstream and downstream industries, commerce and domestic customers affected.

North American Electric Reliability Corporation (NERC) addressing critical infrastructure protection. Manufacturers need to take measures protecting their facilities against a total outage.

In an industrial operation, Backup Control Centers (BCCs) are used in the event that a Primary Control Center becomes inoperable and control functions must be switched to a backup location.

**Challenges with Existing Techniques**

Effective disaster recovery is a business imperative for industrial companies, however, it can be very difficult to achieve. In today’s competitive environment, asset owners are faced with consolidating cost and equipment, reducing management time, and ensuring process control applications are always available when disaster strikes.

Industrial sites frequently encounter problems when implementing traditional Backup Control Center techniques. For example:

- Dedicated hardware on backup sites is unavailable for other uses
- Only a few applications are protected
- Protection is achieved through expensive, proprietary mechanisms
- Testing is very difficult, which lowers confidence in failover execution
- Manual, error-prone steps are involved in performing failovers

Traditional disaster recovery plans depend on a very complex set of processes and infrastructure: duplicate datacenters and server infrastructure; processes for getting data to a recovery site, restarting servers and changing network settings; and so on. As such, industrial sites often find themselves unable to provide good protection to more than a privileged few of their production
workloads, leaving other workloads (e.g. leak detection, inventory tracking and billing software) unprotected or poorly protected.

Due to the complexity of disaster recovery plans and infrastructure, industrial facilities are also heavily dependent on significant amounts of personnel training, the accuracy and completeness of thick paper “run books” that document the recovery process, and perfect execution of the recovery process when an outage does occur. Because testing is disruptive and expensive, companies have a limited ability to ensure that all of their training, documentation, and execution are practiced and can successfully recover their critical process control or business applications.

**Virtualization-based BCC Solution**

Honeywell has a growing range of virtualization-enabled solutions, one of which is a backup control center solution designed specifically for the process control system environment. The Experion® Backup Control Center solution enables customers to achieve faster, more reliable, and more affordable protection by simplifying and automating the key elements of disaster recovery, such as:

- Setting up and testing disaster recovery plans
- Executing failover when a Control Center disaster occurs
- Failing back to the primary datacenter

Honeywell’s innovative BCC approach uses central storage to “centralize” all of the virtual machines in a common storage environment. This storage is then replicated from one site to another. The site recovery manager software contains all of the procedures (or the “playbook”) for both tests and failovers. Failover combinations with this approach include:

- One-to-One (single backup site dedicated to a single primary site)
- Many-to-One (single backup site protecting multiple primary sites)
- Bidirectional Protection (Control Centers protecting each other).

**Benefits vs. Traditional Approaches**

The Experion Backup Control Center solution provides a number of key benefits versus traditional disaster recovery techniques. They include:

- **Complete Application Protection** - The Experion Backup Control Solution provides a complete, holistic site recovery solution that supports multiple applications. This solution requires minimal, if any, changes to the protected application in order for it to be supported.

  Previous site disaster recovery solutions were typically proprietary and application-specific. This approach was complicated and costly to maintain, and assumed that the software provider had a site-to-site disaster recovery solution. Additionally, each application normally had a different way of providing this functionality – complicating backup plans.

- **Reduced Backup Costs** - With a virtualization-based Backup Control Center, plants can deploy a full mirror of their primary systems without duplicating the hardware for those systems. Rather than creating a second replica system, virtual machines from the primary site are replicated to the backup site and can run on the same or dissimilar hardware. On the backup site, higher consolidation ratios (i.e., the ratio of virtual machines to physical hardware) can be used due to the lower performance requirements of the backup site — further saving on backup site hardware. Plus, a virtualized BCC solution allows backup sites to be employed for other purposes when not in use.

- **Ability to Test anytime** - With the Experion Backup Control Center Solution, testing can be done at any time, thus enabling a high degree of confidence in the integrity of the disaster recovery process. Furthermore, the execution of non-disruptive recovery plan tests is made easier since the solution can establish a testing environment entirely isolated from the production network.
• **Rapid Failover**—Industrial operations can meet their Recovery Time Objectives (RTOs) by automating disaster recovery, as well as eliminate the slow manual steps involved in the failover and recovery process. The RTO is the maximum tolerable length of time that a computer, system, network, or application can be down after a failure or disaster occurs. The RTO is a function of the extent to which the interruption disrupts normal operations and the amount of revenue lost per unit time as a result of the disaster. These factors, in turn, depend on the affected equipment and application(s).

**Experion PKS Virtualization Platform**

Honeywell understands the big picture when it comes to creating a virtual — more efficient — plant. We lead the industry in applying virtualization to industrial control systems, with a comprehensive suite of solutions and expertise that can streamline Experion Process Knowledge System (PKS) management and lower total cost of ownership by up to 30 percent.

Honeywell’s Experion PKS Virtualization Platform supports a growing number of virtualization-enabled solutions. These virtualized offerings allow customers to start small in order to gain confidence in the technology.

They include:

- Virtual Infrastructure providing the software and hardware needed to run virtual machines
- Virtualization Solutions that take advantage of virtualization features to create new capabilities
- Virtualization-ready Applications tested and certified for virtual environments
- Virtualization Services supporting customers from pre-sales to after-market

For More Information

Learn more about how Honeywell’s Experion Backup Control Center (BCC) solution can improve Business Continuity and Disaster recovery, visit our website [www.honeywellprocess.com](http://www.honeywellprocess.com) or contact your Honeywell account manager.

**Honeywell Process Solutions**

Honeywell
1250 West Sam Houston Parkway South
Houston, TX 77042

Honeywell House, Arlington Business Park Bracknell, Berkshire, England RG12 1EB UK

Shanghai City Centre, 100 Junyi Road
Shanghai, China 20051

[www.honeywellprocess.com](http://www.honeywellprocess.com)