

Solution Note

Data Reliability: A Secure Solution with HC900 and Experion HS



Challenge

Process data is a crucial element in manufacturing. Industries increasingly require documented data on the manufacturing process before being permitted to sell their products or simply to improve the process. Process data is also critical in documenting new processes, from pilot to full scale production, and in the research and development of new products.

Without this critical process data, or if even a portion of data is lost, products cannot be sold or months or years of research on a new product may be invalidated. Accurate, reliable data and record keeping has become as important as an accurate, reliable control system for the process.

Pilot plants, research facilities, data centers, clean rooms, aerospace parts manufacturing facilities, finished product warehousing requiring accurate records of the storage environment – all require accurate and reliable data and record keeping.

Solution

For years, Honeywell has successfully deployed validated systems to leading pharmaceutical manufacturing companies and research facilities. They have used Honeywell's Enterprise Building Integrator (EBI) for the building management system and the HC900 controller for critical control of temperature, pressure and humidity of manufacturing process environments, research areas and warehousing of finished product.

These projects also use a data archiving technology within the HC900 and EBI for automatic backup of process data in the HC900 in case communication is interrupted in any manner at the server or networking level.

EBI and Honeywell's Experion® systems share similar technology. Consequently, Experion HS R410, the powerful software platform incorporating human machine interface applications and supervisory control and data acquisition (SCADA), can use this same technology in applications with the HC900 process controller. This feature is called "History Backfill".

The History Backfill option enables plant history data from HC900 to be uploaded into Experion HS, providing critical data protection in the case of network outages, Experion HS server failures or other breakdowns.

In all cases, the Experion HS Historian remains the master. Where data is missing in the history file, the Experion HS server can retrieve the data from the HC900 once communication is restored and backfills the Experion HS historian to maintain a complete record so there is no loss or gaps in the process data.

Easy to Use Data Reliability for Peace of Mind

With out-of-the-box functionality, the critical points to be archived can easily be set up in both Experion HS and HC900.

Redundancy for added protection

The backfill function is available in all models of the HC900 CPUs, including redundant processors. Redundancy can also optionally be deployed with Experion HS for redundant servers and redundant communications to the HC900. These layers of redundancy allow multiple layers of protection for critical processes and data.

In addition, Experion HS supports conversion of a non-redundant server to redundant server. Users must simply ensure a redundant server license is available, the hardware and software configuration is the same for the redundant pair, and the non-redundant server's name is used as the base name for the redundant pair.

Data synchronization with other historians

The MatrikonOPC suite of OPC products enables easy integration of the Experion HS server with other historian products and synchronization of history databases to eliminate missing data in other historians used for plant or corporate history collection.

MatrikonOPC's History Link provides an integrated data architecture eliminating gaps in data that can occur when linking different vendors' historians together.



Reliable data from the source to the final report

Data reliability starts with a rock solid source for collecting data and is maintained by secure mechanisms for communicating the data all the way to the final destination and users. Honeywell's History Backfill solution utilizing HC900, Experion HS and Matrikon's OPC History Link provides a secure, reliable method to be sure that accurate process data is always available.

The Honeywell Advantage

Experion HS is a powerful software platform built on the proven technologies of the Experion PKS platform. It provides an integrated and affordable solution for smaller unit operations, with a wide range of benefits for users:

- **Reliable** – Experion HS incorporates high-performance, stable and secure software
- **Flexible** – From a small system to a large multi-site system integrated with Experion PKS, Experion HS successfully addresses a wide variety of application requirements
- **Efficient** – Experion HS offers improved operator effectiveness and provides increased profitability and productivity



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For More Information

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- **Scalable** – Expand Experion HS as your operations expands, and integrate easily using Honeywell's MatrikonOPC Server
- **Easy to use** – The ease of configuration and ease of use of Experion HS ensures projects can be implemented quickly and efficiently

HC900 is a flexible, modular and scalable system for process control, offering a faster start-up time, common engineering tools, reduced training, simplified maintenance and the lowest cost of ownership:

- **Proven and Reliable** – Maintaining a safe and continuously operating environment
- **Easy to Use and Engineer** – Easy to use function blocks with reduced engineering costs
- **Accurate and Optimal Performance** – Increases throughput and efficiency
- **Total Solution for Process Control** – The lowest cost of ownership, with reduced training, maintenance and inventory costs.