

Experion® PKS Control HIVE

Product Information Note

Honeywell Experion PKS Highly Integrated Virtual Environment (HIVE) is a new generation of control system technology, it enables elevated levels of design flexibility and optimization which significantly simplify control system design, implementation, lifecycle management and support.

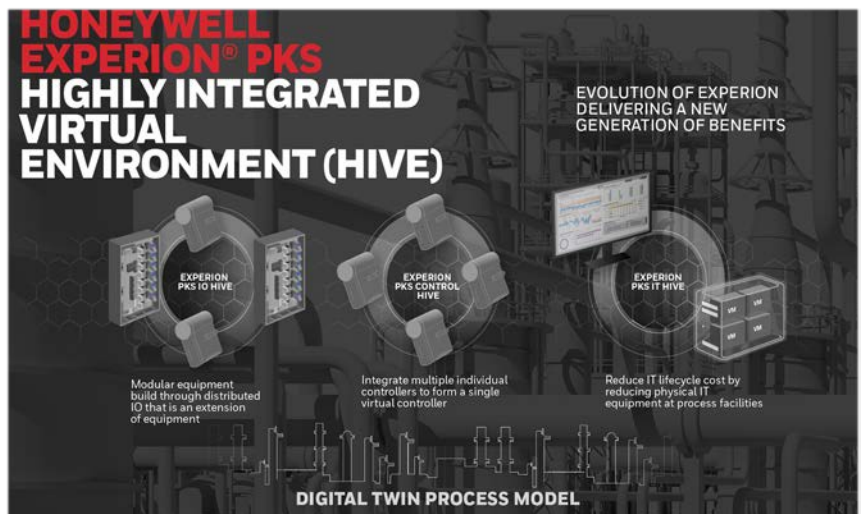
Experion PKS HIVE uses LEAP™ project execution principles, software, and networking to unchain control applications from physical equipment, and controllers from physical IO. This enables control systems to be engineered and implemented in less time, at lower cost and risk, and with simpler, modular builds.

Experion PKS HIVE is built on three key technologies – IO, Control, and IT– which can be deployed individually or in synergy for greater benefits.

IO HIVE: Enables the flexible distribution of control and I/O cabinets in the field, decoupling I/O modules and I/O assignments from controllers. It delivers the flexibility to assign any I/O channel to any controller.

CONTROL HIVE: Integrates multiple individual controllers in a way that makes them look and act as a cluster of shared compute resources with universal access to I/Os.

IT HIVE: Decouples IT workloads from having to run at a local process facility. Reduces costs by reducing IT equipment at process facilities.



FEATURES & BENEFITS

Flexibility & Scalability

- Flexibly accommodate design changes, modifications and expansions during project execution, and throughout the lifecycle of the system
- Virtual Control HIVE allowing control to be flexibly deployed on any hardware platform and location, from being adjacent to the process unit, control room, and your data center

Optimization

- Empower Honeywell LEAP project execution concepts by further enabling mass standardization & Digitization which results in: Eliminating project associated risks and optimizing project schedule while reducing engineering efforts and costs.
- Optimized control compute resources & IO utilization with uniformly loaded controllers

Enhanced Availability

- HIVE Infinite availability and redundancy mechanism offers higher levels of controller resiliency, where multiple disruptions can be tolerated as per the system design while optimally utilizing all the available resources.

Simplify Lifecycle Support

- Automated procedures and workflows for implementing regular maintenance activities and system upgrades.
- Enhanced system availability and reduced risks while conducting maintenance and Service activities

About Experion PKS Control HIVE

Control HIVE integrates multiple individual controllers in a way that makes them look and act like a cluster of shared compute resources with universal access to I/Os, allowing the controllers to become flexible compute, acting as a control data center. Control HIVE offers significant flexibility to accommodate design changes, modifications and expansion while simplifying lifecycle management and support.

With the **Control HIVE smart assignment and load balancing capabilities**, control strategies can be associated with the Control HIVE- they are automatically allocated to available controller compute within the HIVE in an optimal manner. Automated smart assignment and load balancing functionality are based on system and user-defined rules and criteria.

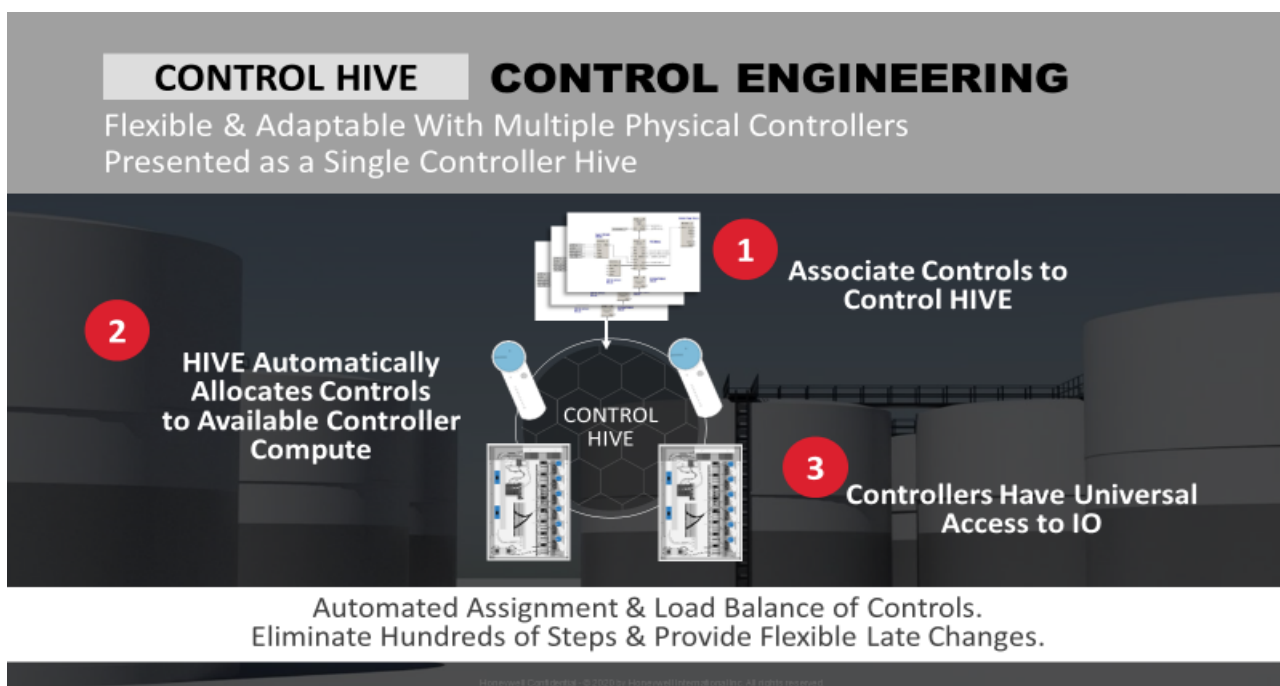


Figure 1: Experion PKS Control HIVE overview

If more compute is needed, controllers can be easily added to the HIVE. Control applications can be re-organized, or re-allocated from one location to another within the Control HIVE as needed, without having to do any system re-configuration, re-design or re-assignment to your I/Os.

Another key advantage of the Control HIVE is that all the controllers can be uniformly loaded, unlike traditional deployment scenarios, where some controllers are heavily loaded while others are underutilized.

In the case of late design changes, and modifications during project execution, or throughout the lifecycle of an on-process system, there is always a risk that some controllers are heavily loaded. These limitations may inhibit the ability to implement modifications as desired. During project execution, this can result in significant unplanned rework to re-configure and re-design the system, ultimately delaying the project schedule. For a running plant, this could prevent the implementation of modifications which would impact the overall plant operation and productivity.

Control HIVE also offers a step-change improvement to the traditional redundancy scheme providing a breakthrough approach to process availability

For industrial operators, traditional one-over-one redundancy means a primary and a backup controller, and in the event of a controller outage, control can only move from the primary controller to the associated backup.

Now, with Control HIVE there is **infinite availability**, where control automatically transitions to any other controller with available compute – and this process can continue as long, as available compute exists in the HIVE. Infinite availability is making process control more resilient than ever before, where multiple disruptions can be tolerated as per system design.

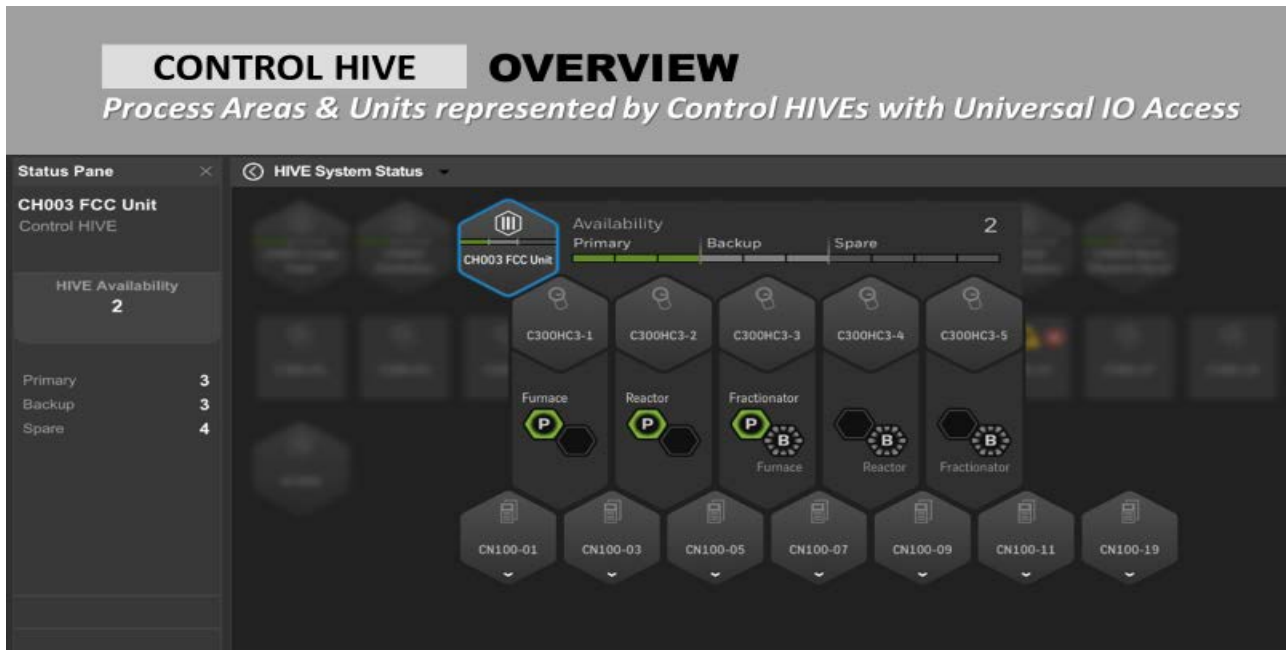


Figure 2: Experion PKS Control HIVE system view

Control HIVE offers **universal software-based control** by decoupling the control application from the physical platform. This means control can run on any hardware platform, from dedicated embedded controllers such as the C300, all the way to traditional PCs and servers. This results in having the functionality of a C300 controller, along with the capabilities and reliability of the Control HIVE, all on a generic hardware platform.

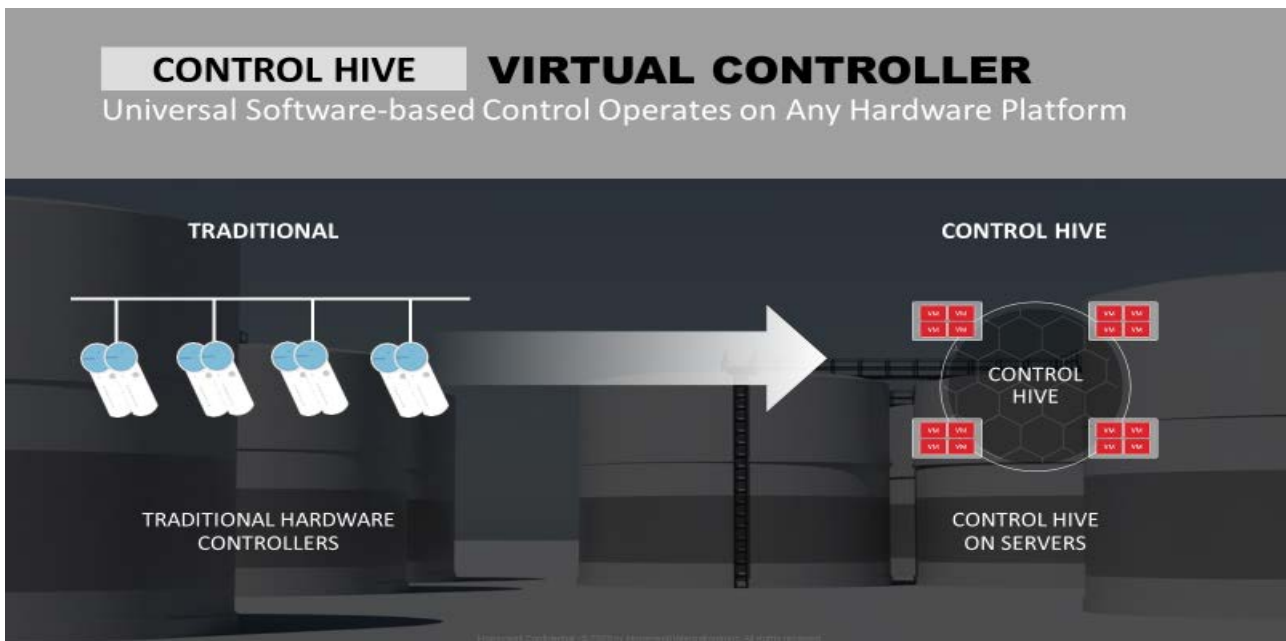


Figure 3: Virtual Control HIVE overview

Virtual Control HIVE along with IT HIVE allow control to be on any hardware platform and in any location from – adjacent to the process unit, to the control room, or to your data center.

How can Experion PKS Control HIVE boost performance at your organization?

Optimize Project Schedule, Reduce Engineering Efforts & Risks (Evolution of LEAP™)

- New levels of design flexibility and scalability
- Easily adopt late design changes and system expansions
- Standardization of process control system – for distributed and centralized applications
- Simplify/Automate control application assignment
- Parallel and modular project execution.

Optimize Utilization of Controller Resources & I/O

- Up to 15% reduction in control system hardware, cabinets and footprint
- Eliminate heavily loaded and underutilized controllers
- Optimize control application assignment and load balancing.

Enhance and Simplify Lifecycle Management & Support

- Automated procedure for Control HIVE upgrades and management of change
- Reduced risks during maintenance and migration activities.

Indefinite System / Controller Longevity

- Decoupling of control software and application from hardware
- Control application can run on any qualified physical or virtual controller platform.
- Significantly extend the lifecycle of the system and overcome the increasing pace of software and hardware obsolescence challenges.

For More Information

Learn more about Honeywell Experion® solutions www.honeywellprocess.com or contact your Honeywell Account Manager.

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