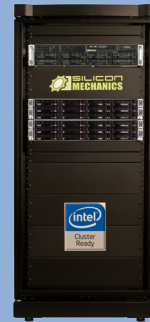




## More About Intel® Cluster Ready

by Brock Taylor, Intel Cluster Ready Solutions Architect



# Expert included.

*Intel® Cluster Ready (ICR) promotes easier, faster paths for utilizing HPC clusters to solve complex problems and build competitive edge. Certified ICR solutions are designed and verified to a defined architecture, enabling interoperability with ICR registered applications. Acquisition and deployment of an ICR solution allows more users access to the scalable and economical computing resources that clusters provide.*

### **Intel Cluster Ready brings hardware and software together as a cluster platform.**

The Intel Cluster Ready program aims to increase adoption and promote the wide-spread use of HPC clusters. The heart of the program is the architecture specification that defines both hardware and software requirements for cluster solutions enabling independent software vendors (ISVs) to develop for a common platform interface. The resulting interoperability of solutions and applications translates into easier deployment and faster time to utilization of computing resources.

Intel Cluster Ready systems also include Intel® Cluster Checker, a diagnostic tool that verifies the architecture is present and the cluster is functioning correctly. Years of cluster building expertise are represented by this tool, which becomes an integral part of both deployment and maintenance of the system. Ultimately, this means ICR certified solutions come pre-configured, enabling users to realize the cluster as an appliance that is more like running a workstation than a group of individual systems.

### **Solution Certification ensures the architecture is present.**

To facilitate a common architecture, the Intel Cluster Ready program employs a certification process to verify a system design is compliant with the specification. The certification requires a solutions provider to create a reference design and use the Intel Cluster Checker to confirm the design contains all the necessary software components. A certified solution means that a vendor has ensured a cluster design presents a common software interface for applications. Each system built from that design is then verified by the Intel Cluster Checker to ensure it is functioning as it should before it is shipped to the customer. The full solution – hardware and software – is tested and ready to go from the start.

### **Application Registration promotes interoperability on certified solutions.**

The applications and the ISVs are also a critical part of the equation. The Intel Cluster Ready program provides an application registration process to help ISVs ensure their application runs on the defined software interface. The registration process requires an ISV to deploy their application on a certified cluster and execute the application with representative workloads to validate its ability to function on any Intel Cluster Ready certified system. If any components required by the application lie outside of the defined interface, the ISV identifies the additional requirements and publishes them on the

Intel Cluster Ready website to ease the deployment process for customers. Registered applications and certified solutions can then be combined with the ICR architecture as the common bond between them.

### **Removing the guesswork from buying a cluster.**

Intel Cluster Ready certification means a solution is ready to run registered applications out of the gate. ISVs can now provide suggested configurations based on the needs and types of problems users need to solve. Customers don't need to buy hardware and software separately then have to figure out how to put it all together. In other words, ICR customers don't need to guess whether combining their hardware and software components will result in a cluster that works for them. The certification and registration processes mean applications will run on the cluster, thereby allowing users to concentrate on determining what configuration works best for the problem sets they want to solve.

### **Intel Cluster Checker lets users concentrate on problem solving, not administration.**

As for the Intel Cluster Checker, it stays with the system for the users. Intel Cluster Checker provides an easy means of maintaining the solution, with pass/fail results from diagnostic modules that cover basic functionality up through application style testing. If an issue does arise, the tool speeds discovery and fault isolation, helping to get the system quickly back to operational status. It's like having a cluster expert with each system, so users are able to concentrate on using, not administrating, the system.

### **Intel Cluster Ready's wide appeal**

Intel Cluster Ready applies to a wide range of HPC problems for a wide range of users. For users taking their first jump into HPC, certified solutions offer a fast path without a steep learning curve requiring specialized administration skills. Users currently constrained by workstations have an opportunity to expand compute resources to a scalable solution. ICR significantly lowers the cluster expertise barrier, allowing administrators or workstation users to efficiently manage the solution without being a cluster guru. Large scale HPC enterprise users now have an option for localized resources to help scale problem solving resources. Teams or organizational units can deploy and maintain their own departmental or workgroup clusters. Users can access localized resources for design exploration and problem solving without competing with larger, long-running jobs on centralized computing resources. IT administrative resources can concentrate on the datacenter, and downtime for maintenance or dedicated project work of the centralized resources doesn't block progress on the localized systems.

### **More information about Intel Cluster Ready**

To learn more about Intel Cluster Ready, visit [www.intel.com/go/clusters](http://www.intel.com/go/clusters), call Silicon Mechanics at 866-352-1173, or email [sales@siliconmechanics.com](mailto:sales@siliconmechanics.com).