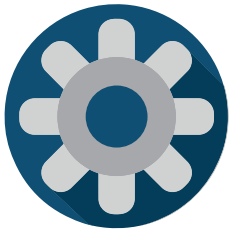
Cisco and Docker Solutions

Support containerized applications

Scalable, resilient, and secure

Fully validated designs



Programmable and policy based

Cisco and Docker are modernizing application environments

Containers are revolutionizing application development by delivering greater agility, portability, and performance. As organizations are moving containerized applications into production, they want solutions that address security and isolation issues, help ensure application and infrastructure performance, and optimize resources. IT organizations want the applications to be production ready, so they can be efficiently rolled out at scale. Whether applications are deployed on premises or in the cloud, they need better control, security, visibility and optimization of resources. Cisco and Docker are working with our ecosystem partners and the open-source community to jointly develop, market, and support unified and certified solutions for the entire application journey.

Benefits

- Build, ship, and run distributed applications in your production environment with confidence.
- Deploy scalable, resilient, and secure infrastructure for containerized applications.
- Implement Docker Enterprise Edition (EE) on fully validated Cisco Unified Computing System™ (Cisco UCS®) servers and converged infrastructure.
- Provide a programmable and policy-based architecture for ease of deployment and management.

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Contiv natively integrates with Cisco® infrastructure and maps the application intent to the infrastructure capabilities using robust networking and security policies.

The most powerful container networking fabric

Cisco is the sponsor of an open-source project called Contiv. It is the industry's most powerful container networking fabric, supporting multiple network back ends for containerized environments. Contiv ties the process of building and shipping distributed applications to running them in production. It natively integrates with Cisco® infrastructure and maps the application intent to the infrastructure capabilities using robust networking and security policies. Contiv integrates deeply into container stacks, allowing them to automatically implement policies as the applications are deployed on the infrastructure. As a result, it can scale with microservice applications on demand to help ensure security, compliance, and performance (Figure 1).

Contiv provides a unified networking fabric for heterogeneous Docker deployments on virtual machines, bare-metal systems, and public and private clouds. It offers Layer 2, Layer 3, overlay, and ACI (supporting Cisco Application Centric Infrastructure [Cisco ACI™]) modes. With ACI mode, Contiv provides the unified networking fabric: a single networking pane for your cloud-native and traditional applications deployed on containers, virtual machines, and bare-metal systems. By natively integrating with industry-leading Cisco infrastructure, Contiv enables DevOps teams to declaratively take advantage of infrastructure capabilities.

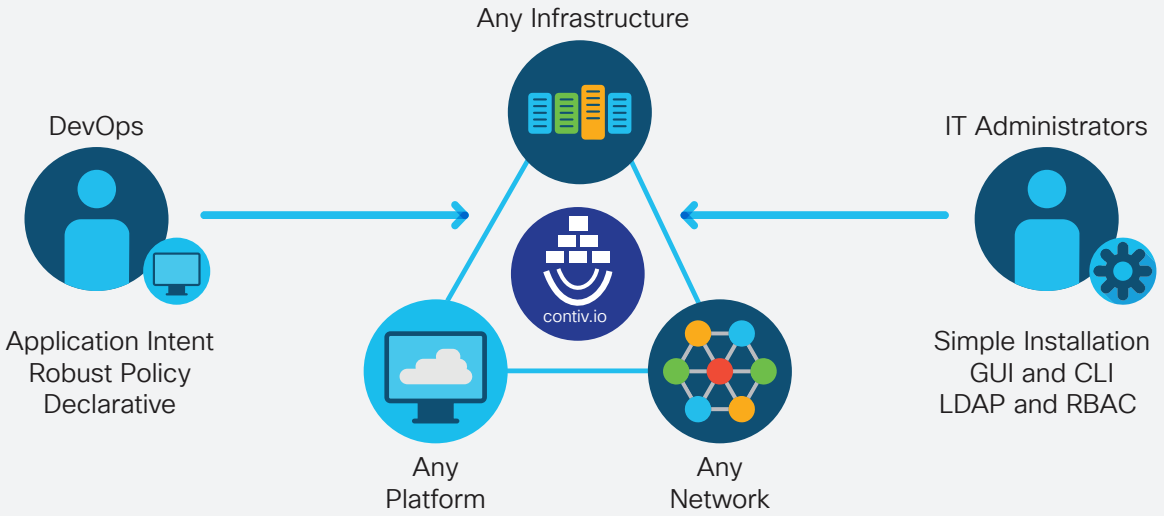

Figure 1 Contiv automates and unifies communication between container stacks and infrastructure

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For more information

- Contiv site on GitHub
- Docker partner webpage

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Contiv is now a Docker Certified plug-in and is available from the Docker Store.

Validated container solutions

The engineering teams from Cisco, Docker, and our ecosystem partners are working together to develop, test, and certify end-to-end solutions. These solutions will allow you to install Docker EE and deploy containerized applications on systems with confidence. We use Cisco Validated Designs to develop the solutions, because it represents the gold standard for reference architecture methodology. Validated designs use defined and proven processes. They cover solution provisioning and configuration and are tested and documented against performance, scale, and availability requirements. The validation process helps ensure that you can deploy these solutions with confidence, and that Cisco can support them effectively.

We have developed two open and unique designs: the Docker EE on Cisco UCS validated design and the Docker EE on FlexPod validated design. These designs help ensure ease of deployment and optimized performance for Docker applications across the stack. The designs include the following:

- Installation of the three products included in the Docker Enterprise Edition subscription: Docker engine, Docker Trusted Registry (DTR), and Docker Universal Control Plane (UCP).
- Both designs are implemented on Cisco UCS B-Series Blade Servers, Cisco UCS C-Series Rack Servers, and Cisco Nexus® switches.
- The Docker EE on FlexPod validated design also documents the use of the NetApp storage system for storage persistence.
- The NetApp All-Flash FAS (AFF) 8040 storage system is integrated with Docker EE using the NetApp Docker Volume Plugin (nDVP) to provide persistent storage for containers using the Network File System (NFS).
- The containers are deployed and managed by Docker UCP.

These validated designs provide you with choices based on your application types, workload characteristics, versions, and converged infrastructure preferences, among other factors. They will evolve over time as we add new functions and refine the solutions. Cisco will be a single point for support so that customers can confidently adopt and deploy these solutions to accelerate their business.