



ADIN 2.0 turns Containers into Intelligent Containers

ADIN cells are intelligent systems with autonomous agents. Echo Messaging is pairing its agent technology with container technology, to turn containers into intelligent containers.

First, there was 'Virtualization' of server hardware and operating systems. Now, there is 'Containerization' of applications. Next, there will be 'Agentization' of processes. This continuum forms the evolutionary basis for hardware and software systems. Echo Messaging has been creating agent-based systems for commercial applications for 10+ years, and with the maturity of container technology, containerizing ADIN agents allows for further automation, portability, scalability and adaptability.

Proto-Cells and Proto-Agents form the base image for containers, which are then injected with Agent specifications - the triggering criteria, the action response and the adaptation settings. Any container



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technology can form what essentially becomes the outer shell to the ADIN agents, including Docker, Kubernetes, Azure Container Services, and HPE Container Services.

Employing containers for ADIN agents has proved quick to implement, and benefit from inherent container features which stabilize the processing environment, ease portability and scalability - all core agent concepts. We have implemented 3 applications, two of which are live. Using swarm/pod concepts, agents deployed over enterprise-supported containers allow for ADIN agents to number in the hundreds or thousands, where now ADIN cells are limited to roughly under 250.

ADIN is an anomaly detection and intelligent notification agent-based system, and every agent is automatically monitored by one or more Health Agents which track and record normal behavior and trigger on unusual behavior, such as loss of network, drop/spike in data processing rates, and a rapid change in data volume. Every ADIN cell has Integrity agents to validate the integrity of the agents by comparing blockchain maintained metadata and key signatures, and if comparisons fails, container images and agent settings are automatically restored, as a way to combat access violations. More to come soon.