

# **The Scianta Autonomous Component Manager**

**An Overview**



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# The Scianta Distributed Infrastructure

Mediating the flow of data, knowledge and intelligence between the Adaptive Intelligence Platform, Scianta's application components, and client applications is the Scianta Autonomous Component Manager (ACM). The ACM forms a node in a highly distributed network of shared application and intelligence elements. Figure 1 shows schematically (and at a fairly high level) the organization of a Scianta Component Manager.

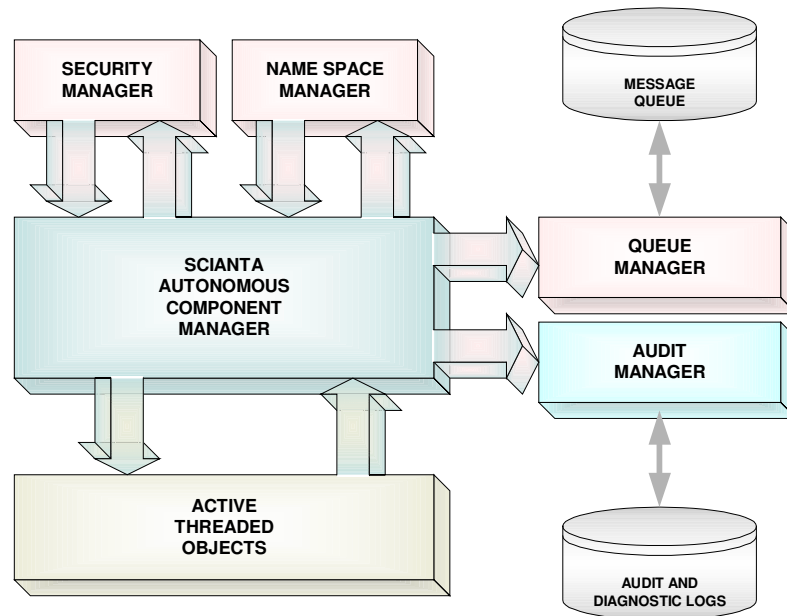
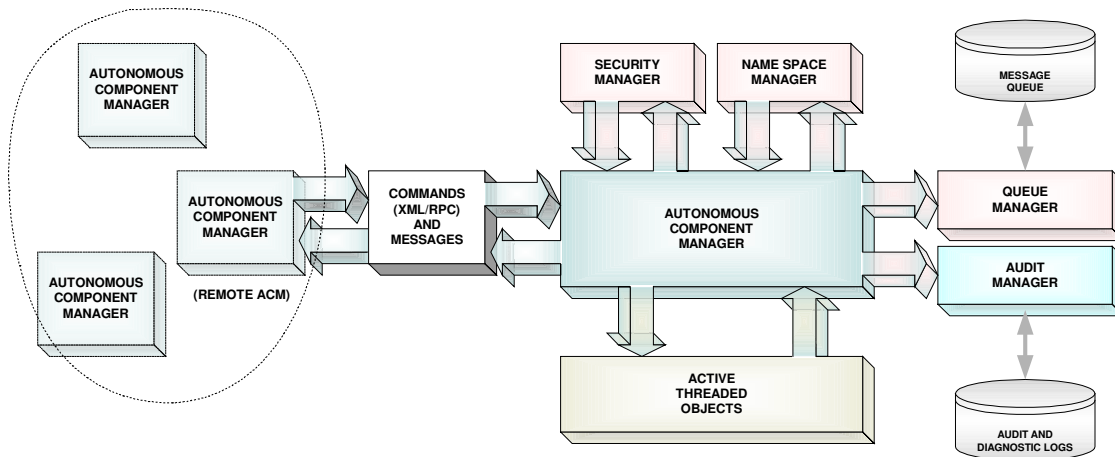


Figure 1. The Scianta Component Manager (ACM)

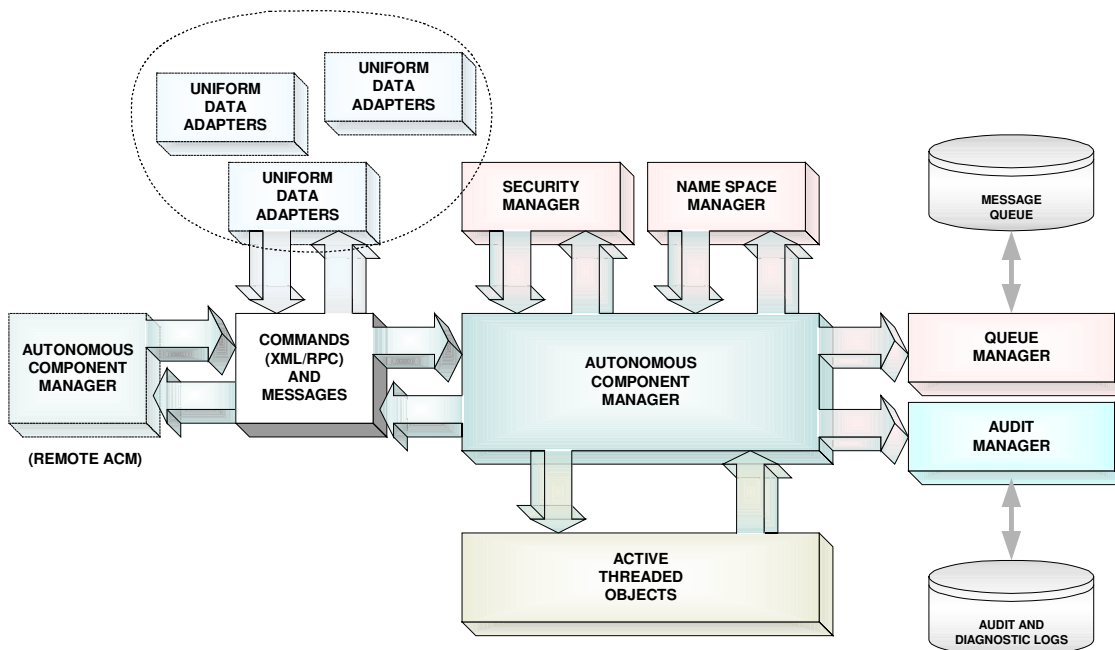
From a design and architecture perspective all the elements in a distributed Scianta system, whether the Intelligence Platform or vertical applications, execute inside a Component Manager. These are the active threaded objects. For the most part such objects consist of a knowledge base (KB) or its extensions<sup>1</sup>. Fundamentally, the ACM forms a node in a wider and more abstract distributed network of co-operating nodes in a (theoretically) highly distributed network of ACMs. These nodes communicate through two kinds of messaging – either transaction messages or commands issued through XML/RPC (remote procedure calls). Figure 2 illustrates the extended ACM functionality schematic.

<sup>1</sup> Every application or process managed by the ACM is an extension of the *aiKnowledgeBase* class, a container class that supports all the integrated technology features of the Adaptive Intelligence Platform.



**Figure 2.** Connectivity Among ACM Nodes

So we see that ACM's communicate by exchanging messages or commands with each other over the network. Each ACM is identified by a public name that uniquely identifies the node among all the active ACM nodes currently visible in the corporate or agency network. The connection between the public name of an ACM and its location in the connected peer-to-peer network is maintained through the Name Space Manager. This connectivity is also used to gain access to data as well as to commands. Data is accessed through a collection of Uniform Data Adapter (UDA) agents. Figure 3 extends the ACM connectivity schematic to show how UDA's are included.



**Figure 3.** The Uniform Data Adapter Connections

By de-coupling data acquisition and structuring from the analytical and processing services of both the Intelligence Platform as well as Scianta applications we insure that our products are able

to fit into almost any environment. The “uniform” in the UDA derives from the fact that the UDA not only has a uniform object representation (as an abstract base class) but also provides a uniform and consistent stream of data packages to the target applications.

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For more information or to schedule a presentation call (919) 678-0477 or visit [www.scianta.com](http://www.scianta.com)



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