

Architecture

System Architecture

System architecture is the conceptual model that defines the structure, behavior, and more views of a specific system.

Similar to [Application Architecture](#) and may include both [Solution Architecture](#) and/or [Software Architecture](#)

Roles:

- **System architect** (*singular*), which is often used as a synonym for [Software Architecture](#).
 - However, if one subscribes to Systems theory and the idea that an enterprise can be a system, then System Architect could also mean [Enterprise Architect](#).
- **Systems architect** (*plural*), which is often used as a synonym for [Enterprise Architect](#) or [Solution Architect](#).

Snippet from [Wikipedia: Systems architecture](#)

A **system architecture** is the conceptual model that defines the structure, behavior, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures and behaviors of the system.

A system architecture can consist of system components and the sub-systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture, collectively these are called architecture description languages (ADLs).

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Systems Design

- Architectural design
- Logical design
- Physical design

Snippet from [Wikipedia: Systems design](#)

Systems design is the process of defining the architecture, product design, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture and systems engineering.

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Systems theory

Snippet from [Wikipedia: Systems theory](#)

Systems theory is the interdisciplinary study of systems, i.e. cohesive groups of interrelated, interdependent parts that can be natural or human-made. Every system is bounded by space and time, influenced by its environment, defined by its structure and purpose, and expressed through its functioning. A system may be more than the sum of its parts if it expresses synergy or emergent behavior.

Changing one part of a system may affect other parts or the whole system. It may be possible to predict these changes in patterns of behavior. For systems that learn and adapt, the growth and the degree of adaptation depend upon how well the system is engaged with its environment. Some systems support other systems, maintaining the other system to prevent failure. The goals of systems theory are to model a system's dynamics, constraints, conditions, and to elucidate principles (such as purpose, measure, methods, tools) that can be discerned and applied to other systems at every level of nesting, and in a wide range of fields for achieving optimized equifinality.

General systems theory is about developing broadly applicable concepts and principles, as opposed to concepts and principles specific to one domain of knowledge. It distinguishes dynamic or active systems from static or passive systems. Active systems are activity structures or components that interact in behaviours and processes. Passive systems are structures and components that are being processed. For example, a program is passive when it is a disc file and active when it runs in memory. The field is related to systems thinking, machine logic, and systems engineering.

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Related:

- [ADL](#)

External links:

- https://en.wikipedia.org/wiki/Systems_design

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Last update: **2020/01/12 12:12**

