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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).

Systems Design

- Architectural design
- Logical design
- Physical design

Snippet from Wikipedia: ***Systems design***

> **Systems design** interfaces, and data for an electronic control 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.

Systems theory

Snippet from Wikipedia: ***Systems theory***

> **Systems theory** is the transdisciplinary study of systems, i.e. cohesive groups of interrelated, interdependent components that can be natural or artificial. Every system has causal boundaries, is influenced by its context, defined by its structure, function and role, and expressed through its relations with other systems. A system is "more than the sum of its parts" by expressing synergy or emergent behavior.
>
> Changing one component of a system may affect other components 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 and other contexts influencing its organization. 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 relations; 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 or interrelate through formal contextual boundary conditions (attractors). Passive systems are structures and components that are being processed. For example, a computer program is passive when it is a file stored on the hardrive and active when it runs in memory. The field is related to systems thinking, machine logic, and systems engineering.

Related:

- ADL

External links:

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

Architecture Articles

A

- Agile Architecture
- Application Architecture
- Architectural Runway
- Architecture Lifecycle

B

- Business Architecture

C

- Cloud Architecture

C cont.

- Composable Architecture

D

- Data Architecture
- Digital architecture

E

- Enterprise Architecture

I

- Information Architecture
- Integration Architecture

S

- Security Architecture
- Software Architecture
- Solution Architecture
- System Architecture

T

- Technology Architecture

skill