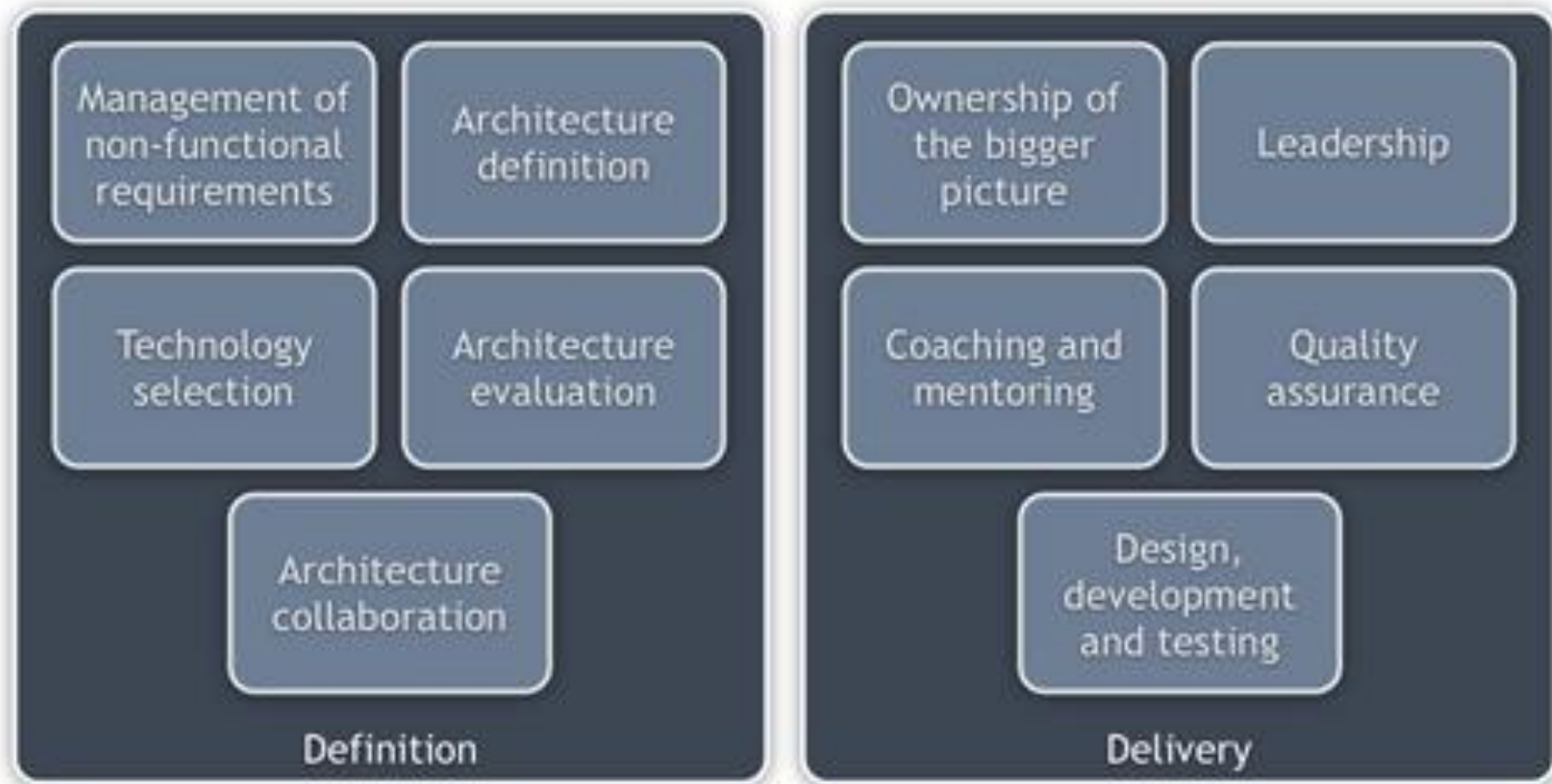


# Architect

Role of an architect

## 2 phases of architecture



# Collect **Non Functional** Requirements

Are non functional  
Requirements

Specific ?

Are non functional  
Requirements

Measurable ?

Are non functional  
Requirements

Achievable ?

Are non functional  
Requirements

Testable ?

Need to be specific, measurable,  
achievable and testable  
if we are going to satisfy them



Define **Architecture**

It is about introducing  
structure, guidelines,  
principles and leadership

Make Technology  
Selection

Are you **confident** the  
technology choices  
are the right ones

Architect should own  
the **technical risk** *and*  
the **technology selection**

Are you allowed to use  
**Open Source** technology ?

Are you constrained by a list of  
**approved technologies ?**

Are you going by  
the Hype ?





Cost, licensing, vendor relationships, technology strategy, compatibility, interoperability, support, deployment, upgrade policies, end-user environments

Reduce risk where there  
is **high complexity**  
or **uncertainty**

Introduce risk where  
there are **benefits**

Technology selection  
is all about managing  
**risk**

Evaluate **Architecture**

Will my  
architecture **work?**

I don't always trust  
myself to get it  
right first time.



Like a good chef,  
the architect **should**  
**taste** what you are producing

Who takes ownership  
of the architecture **evaluation**?

An architecture works if it satisfies  
**non-functional** requirements  
and provides a platform for  
**functional** requirements

Architecture collaboration

the **architecture** you have  
defined should be **understood**  
by **everybody** involved with making  
it a **reality**.

take **ownership** of collaborating  
with the **stakeholders** and  
sharing the **architectural vision**

Ownership of the **Architecture**



An architecture is defined and then passed over  
to a development team





Software development is not a relay sport

Somebody needs to look after  
the Architecture, evolving it  
**throughout** the project

Leadership

the ability for an individual to  
**align** the **thoughts, motivations,**  
and **actions** of a group of people  
towards a common goal

Includes taking  
**responsibility**, providing  
technical **guidance**, making  
technical **decisions**

# Coaching and mentoring

Enhance people's skills  
and to help them improve  
their own careers

Enhance both **technical** skills  
and **Soft** skills



# Quality Assurance

it's more than just  
doing code reviews

introduce **standards** and  
**working practices**

coding standards,  
design principles and  
source code analysis tools

Continuous integration,  
automated **unit testing** and  
**code coverage** tools

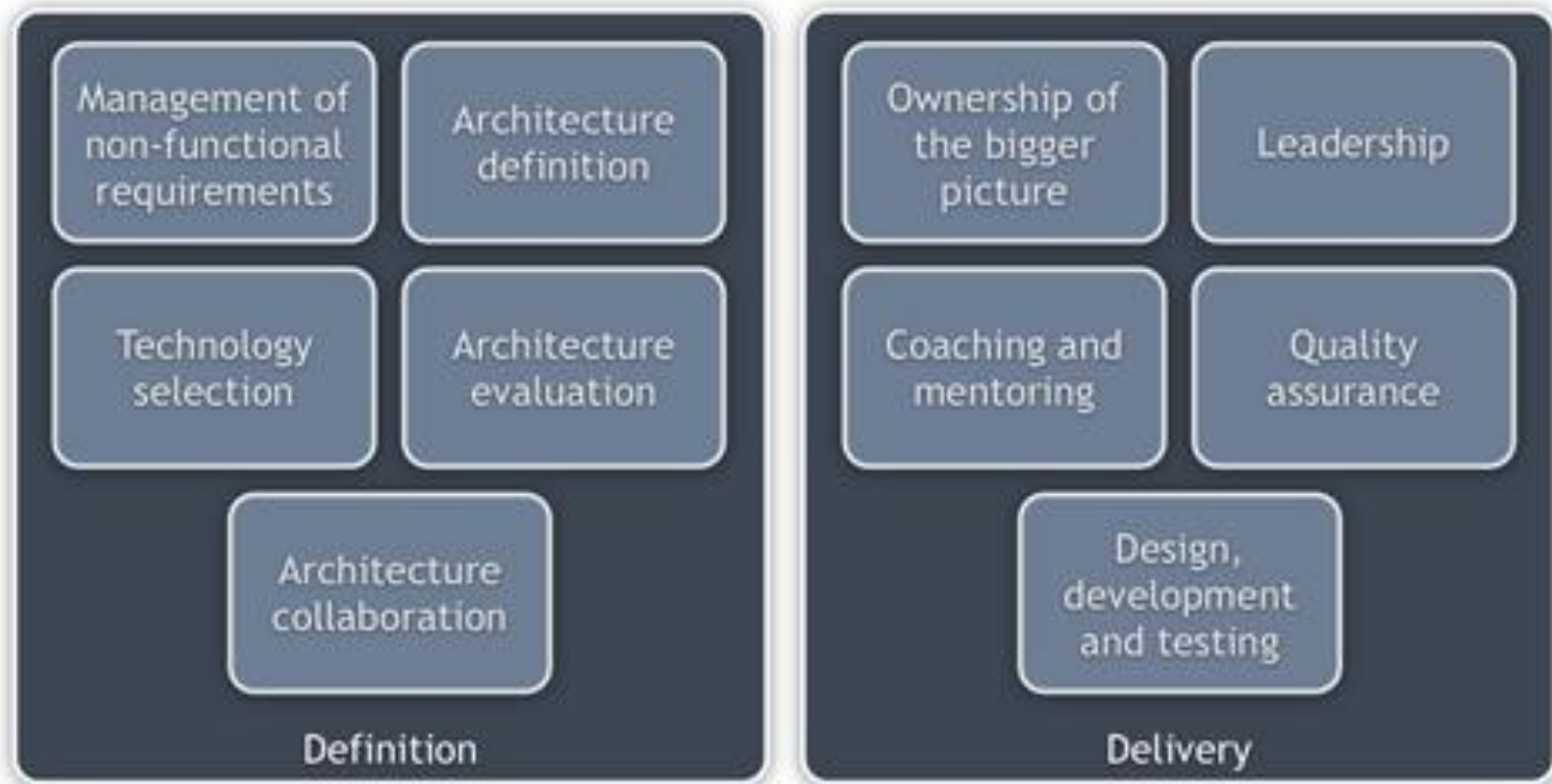
Design, development and  
testing

Architects Don't Code

an architect that codes  
is a more effective  
and happier architect.



## 2 phases of architecture



# Architecting a hut



If you are building a simple, single-user, nondistributed system, you might need no architects at all.

# Architecting a house



# Architecting a high rise





# The Need of Architecture

## The Winchester "Mystery" House



- The mansion contains 160 rooms, 40 bedrooms, 6 kitchens, 2 basements and 950 doors , 47 fireplaces, 10,000 windows, 17 chimneys .
- Out of 950 doors, 65 of them open to blank walls, 13 staircases were built and abandoned and 24 skylights were installed into various floors.

# Famous Words...



“It is a very humbling experience to make a multimillion-dollar mistake, but it is also very memorable....”

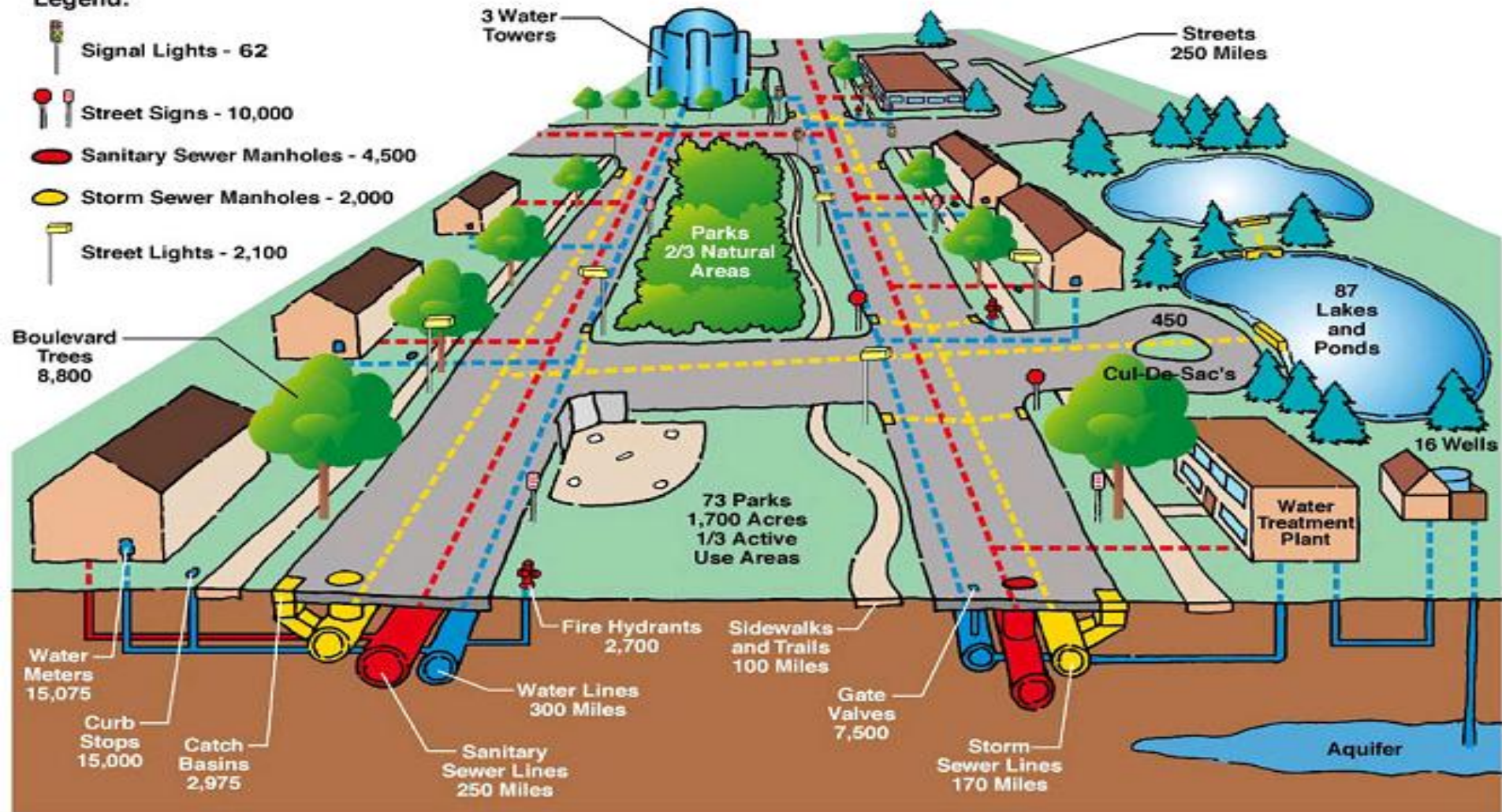
(Fred Brooks - “Mythical Man-Month” p.47)



# City Planner perspective

## Legend:

- Signal Lights - 62
- Street Signs - 10,000
- Sanitary Sewer Manholes - 4,500
- Storm Sewer Manholes - 2,000
- Street Lights - 2,100



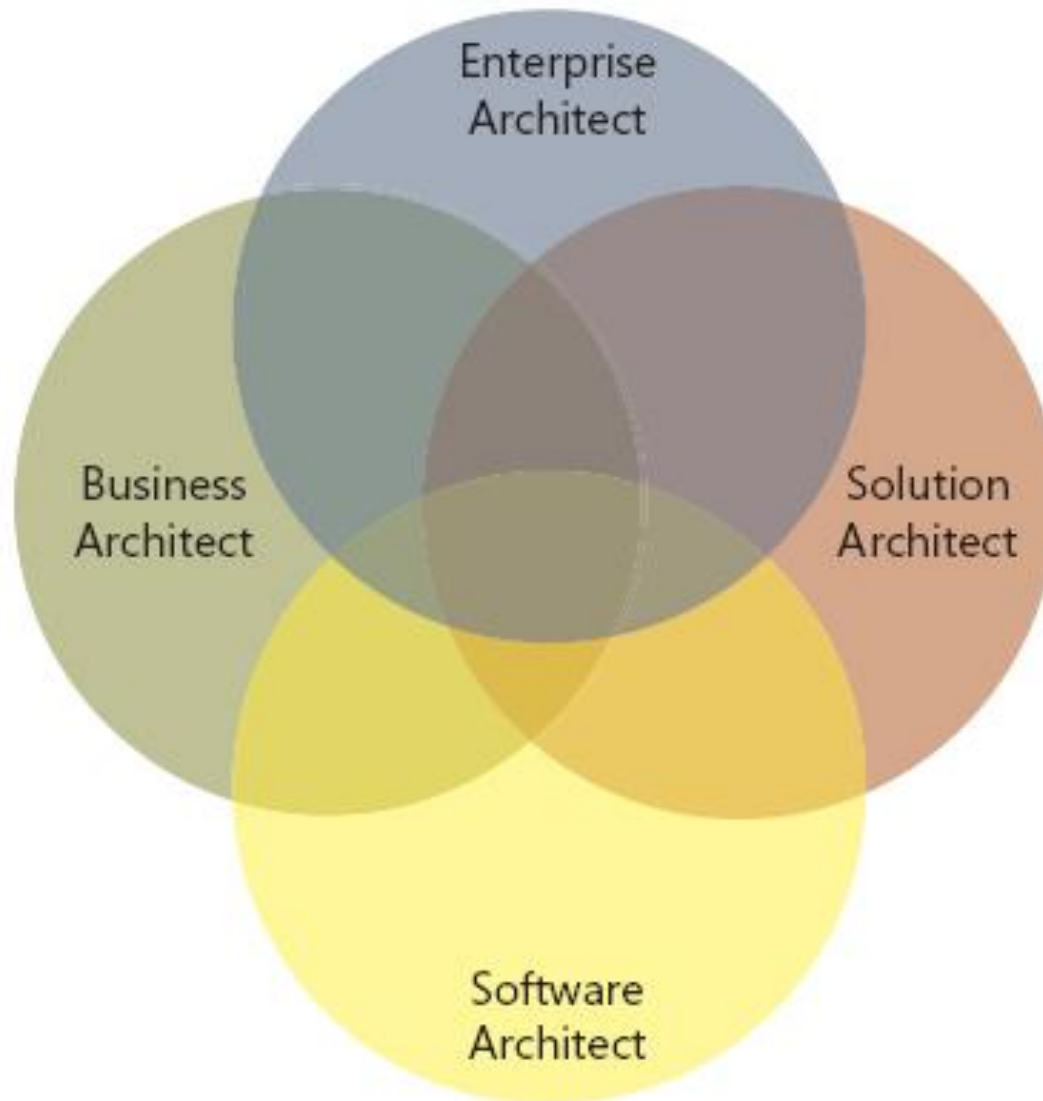


New York City

If you are building an enterprise-wide, mission critical, highly distributed system, you might need a database architect, a application architect, an infrastructure architect, a business architect, and an enterprise architect.

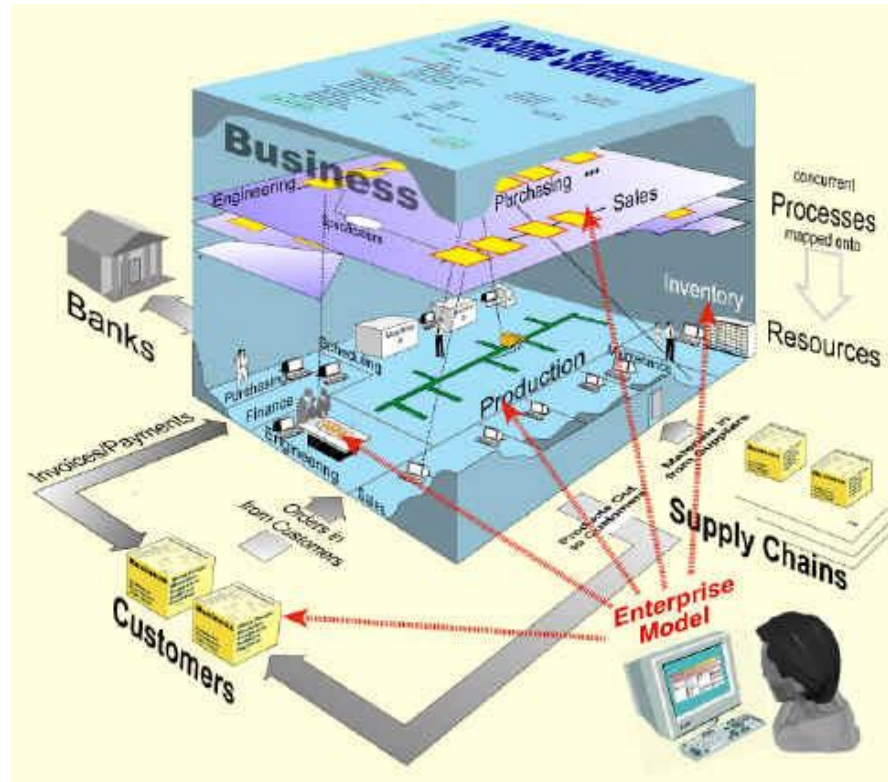


## Architect Roles



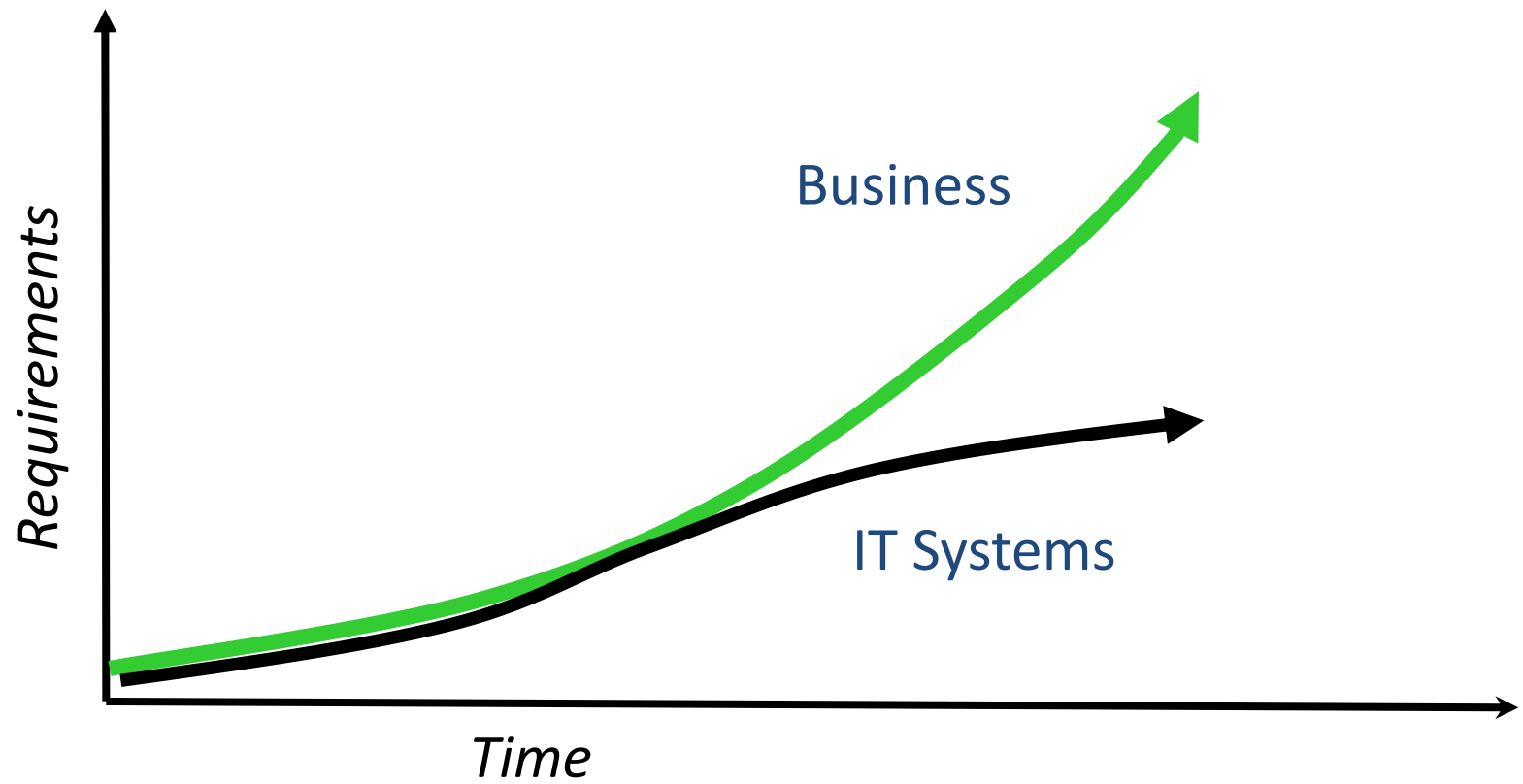
Business Architect

# Business Architect



Focused on devising a business process to adapt the enterprise into the dynamically changing the economical market environment to attain the enterprise vision and mission.

Enterprise Architect

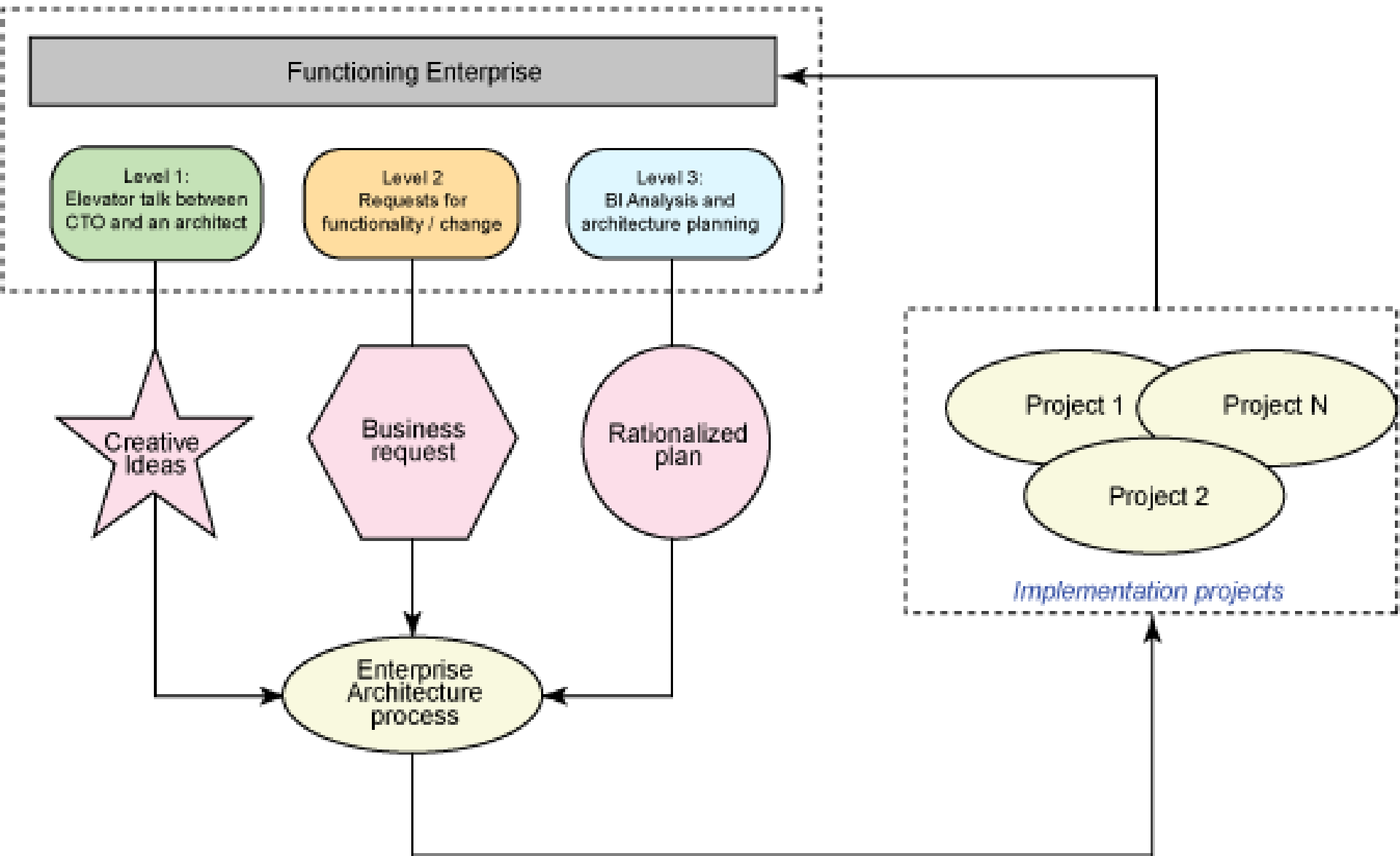


# Business - IT Alignment





Takes a holistic view of the organization that unites business and technology concerns into a strategic enterprise vision.





The Chief Architect has key interactions with the Enterprise Domain Architects.

Chief architect

### Enterprise Domain Architects (Specialist)

Business  
Architect

Information  
architect

Security  
architect

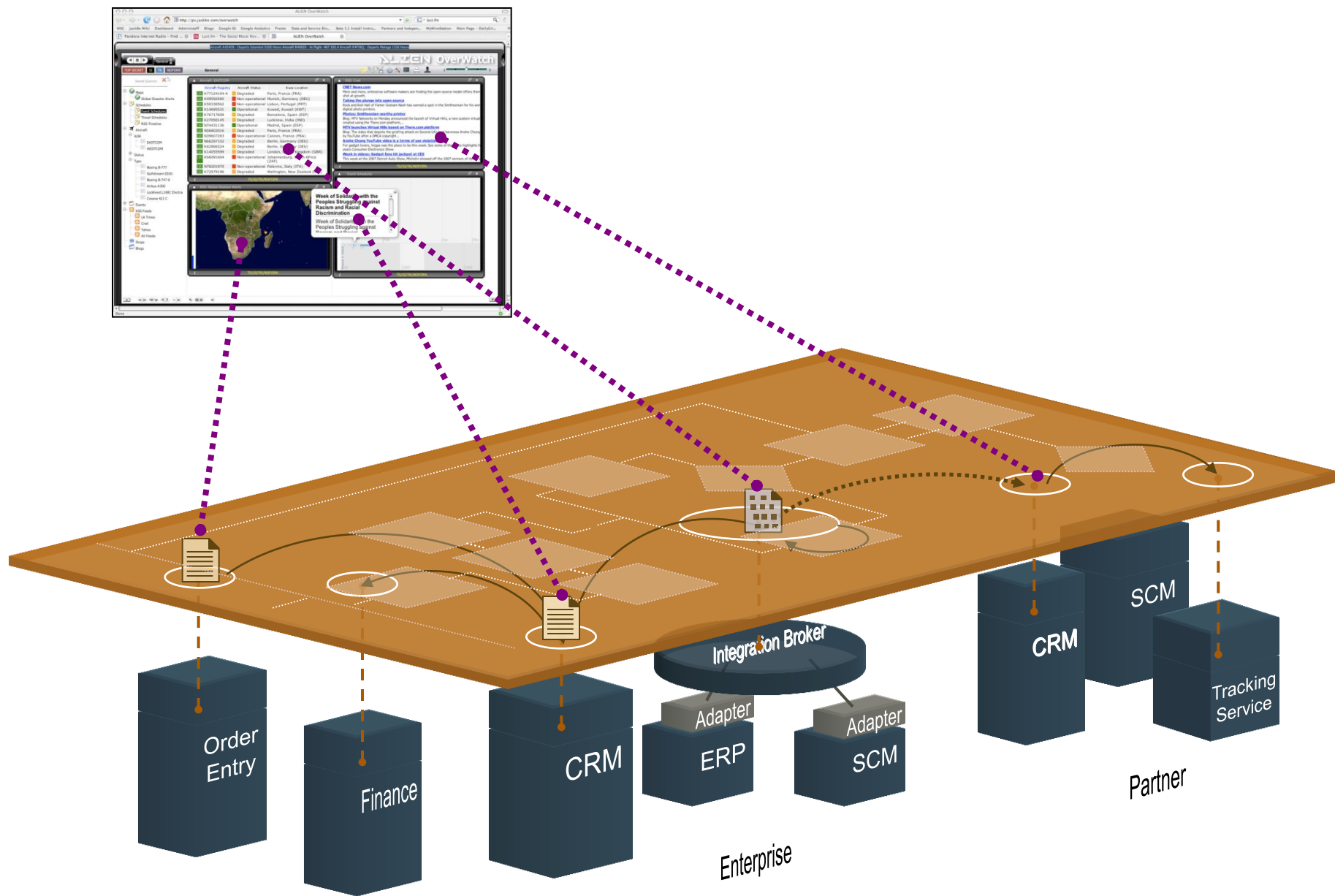
Integration  
architect

Infrastructure  
architect

IT Process  
Architect

Vertical  
Architect

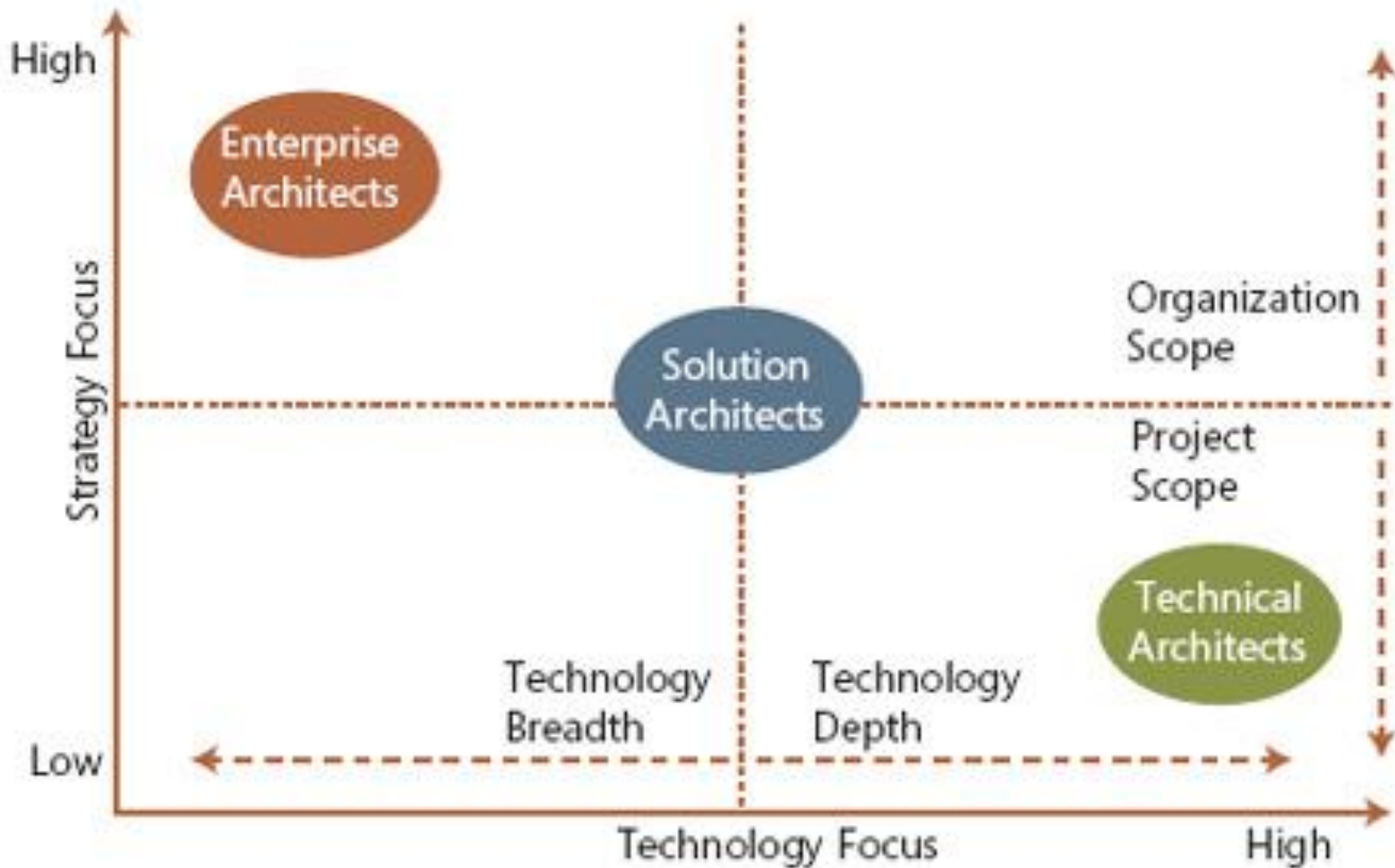
Solution Architect



typically are assigned to  
the development of  
**multiple applications**

Have experience on  
multiple **Hardware** and  
**Software** Environments

# Solution Architect



The role is clearer in

**larger projects,**

particularly when many  
systems are involved

Solution  
architect

### Domain Architects (Specialist)

Technology  
Architect

Data  
architect

Security  
architect

Integration  
architect

Object  
Architect

Vertical  
Architect

Infrastructure  
architect



Application Architect

The most **tactical** of all  
the software architect roles

Works with the structure  
and design of software system

	Business	Enterprise	Solution	Application
<b>Soft Skills</b>				
Communicates well with key stakeholders (C-level officers)	#	*	#	#
Communicates well with stakeholders (Director / Manager level)	*	*	*	#
Public Speaking	~	*	~	#
Writing Skills	*	*	~	#
<b>Hard Skills</b>				
Business Process Engineering	*	*	~	#
Programming	#	#	*	*
Requirements Analysis	*	~	~	#
Software Design	#	~	*	*
Quality Engineering	#	~	*	~
Scope	Across Projects	Across Projects	Single Solution	Single Project

