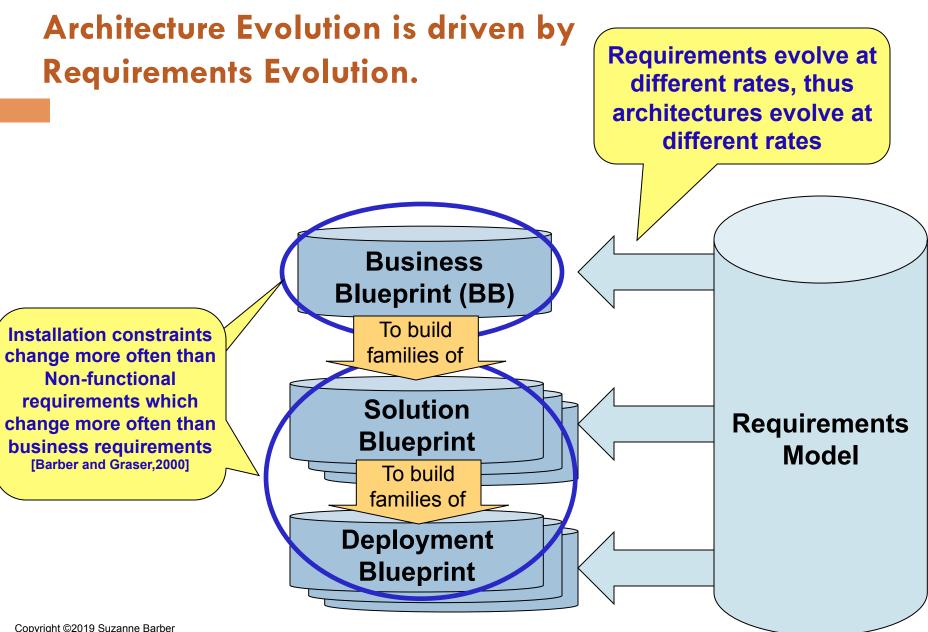
DEPLOYMENT BLUEPRINTS TECHNOLOGY AND SITE SPECIFICATIONS

Suzanne Barber

Lecture Outline

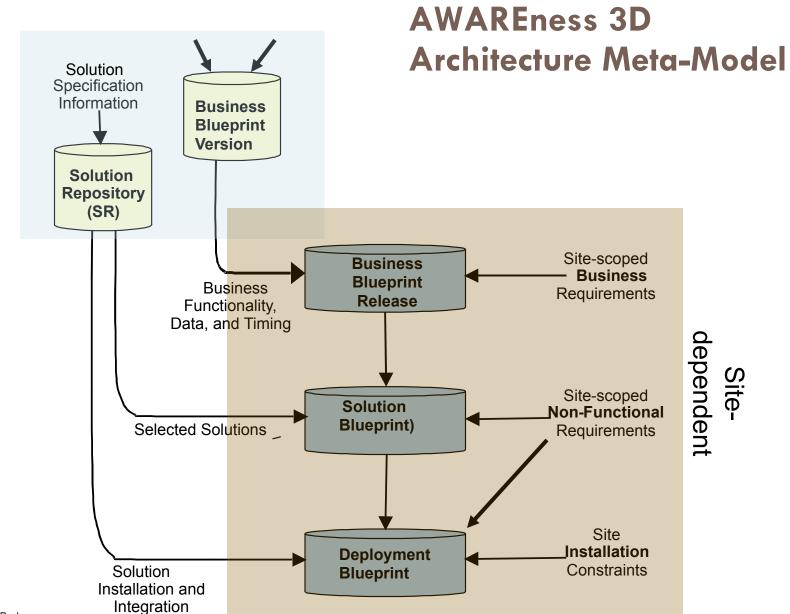
- What are the key ingredients (inputs) for deriving the Deployment Blueprint?
 - The Solutions
 - The Sites
- How are Technologies and Sites described?
 - To promote separation of concerns
 - To promote delineated decision-making (targeting the questions the architect must answer)



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Siteindependent

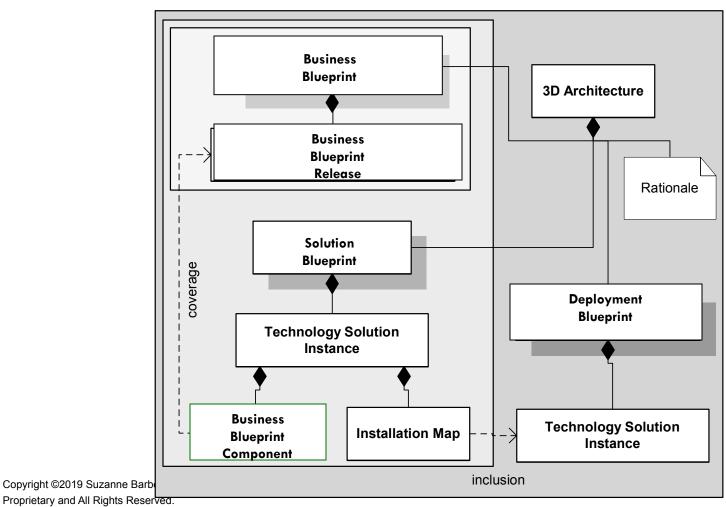


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Requirements

AWAREness 3D Architecture Meta-Model



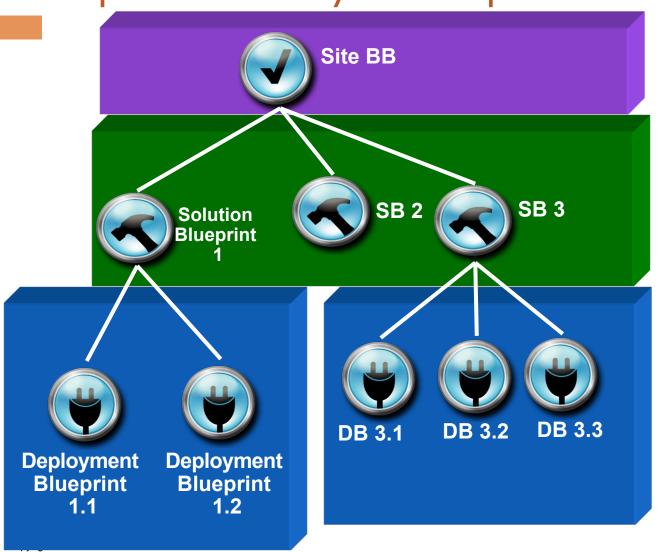
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Architects and Executives – What do they "worry" about?

Architects and Executives – For their systems (products) architectures, What do they "worry" about?

- Requirements Satisfaction
- Integration
- □ Infrastructure resources
- □ Cost vs. Benefits
 - Costs per Requirements
- Deployment Readiness

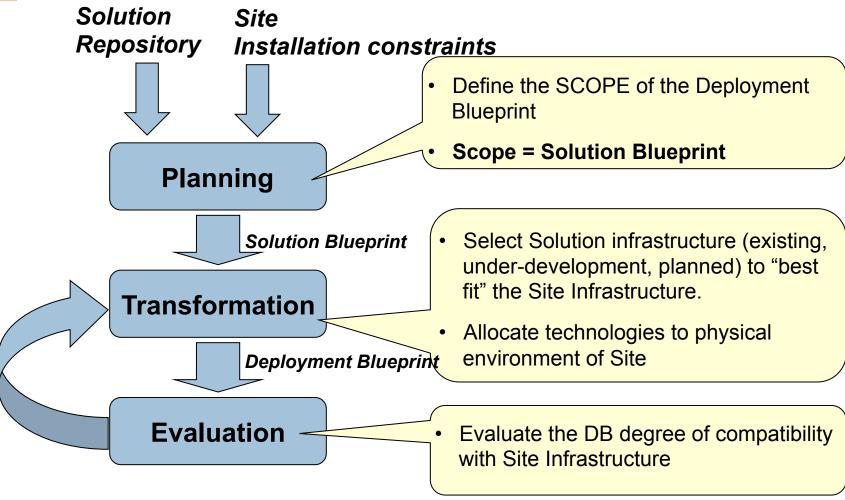
Building "families" of blueprints permit powerful comparative analysis to explore the design space.



What is the Cost/Benefit ratio for each branch in this architectural family tree?

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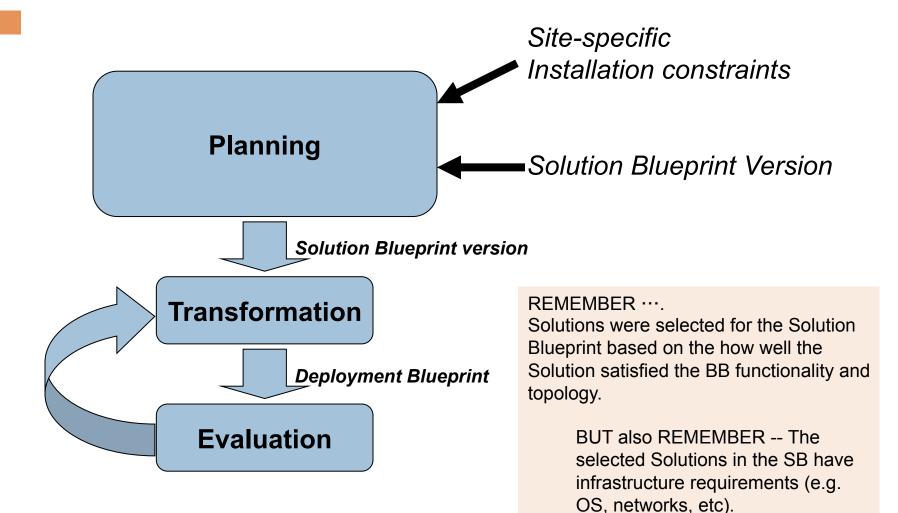
AWAREness Deployment Blueprint Derivation Process



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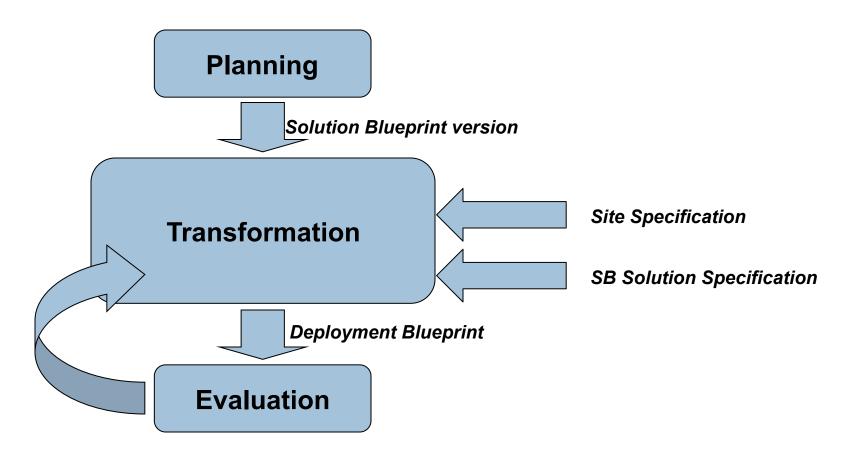
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PLANNING specifies the DB target scope



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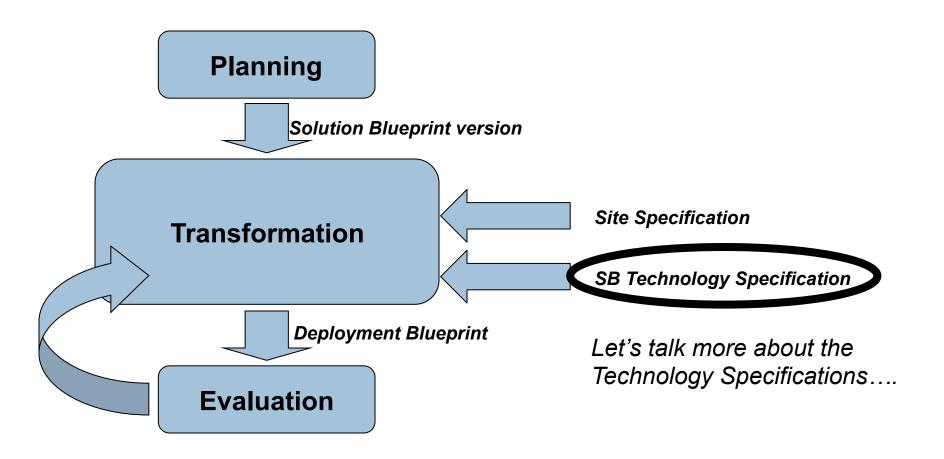
DB Transformation process allocates SB technologies to the Site physical environment.



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DB Transformation process allocates SB technologies to the Site physical environment.



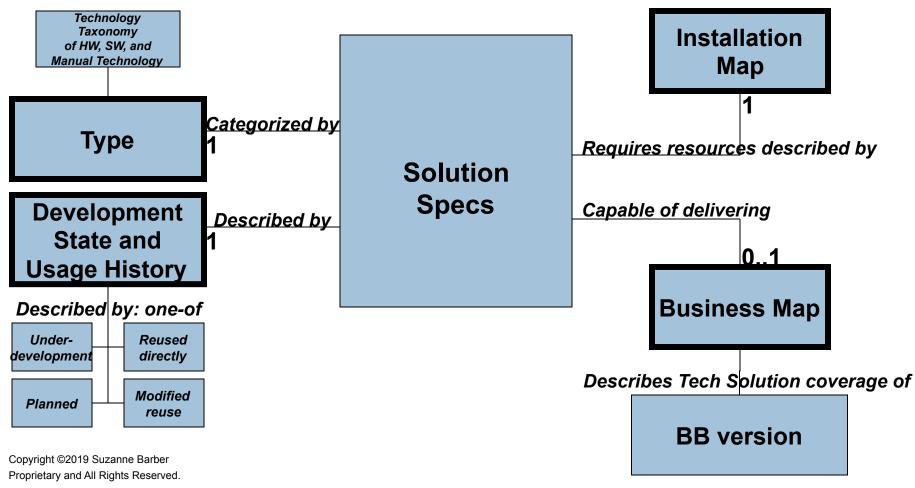
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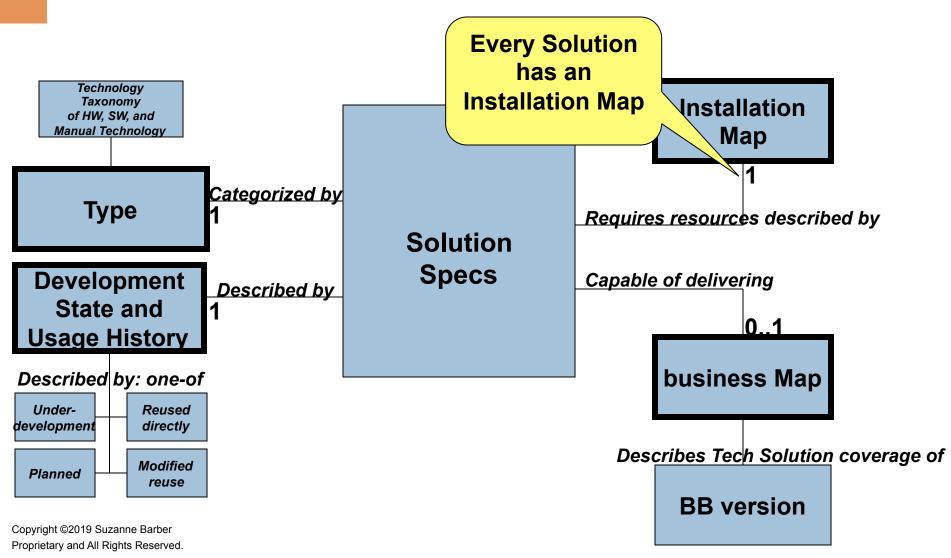
Solution Specification for each Solution in the Solution Blueprint

- Solution Specification
- □ for each Solution
- in the Solution Blueprint

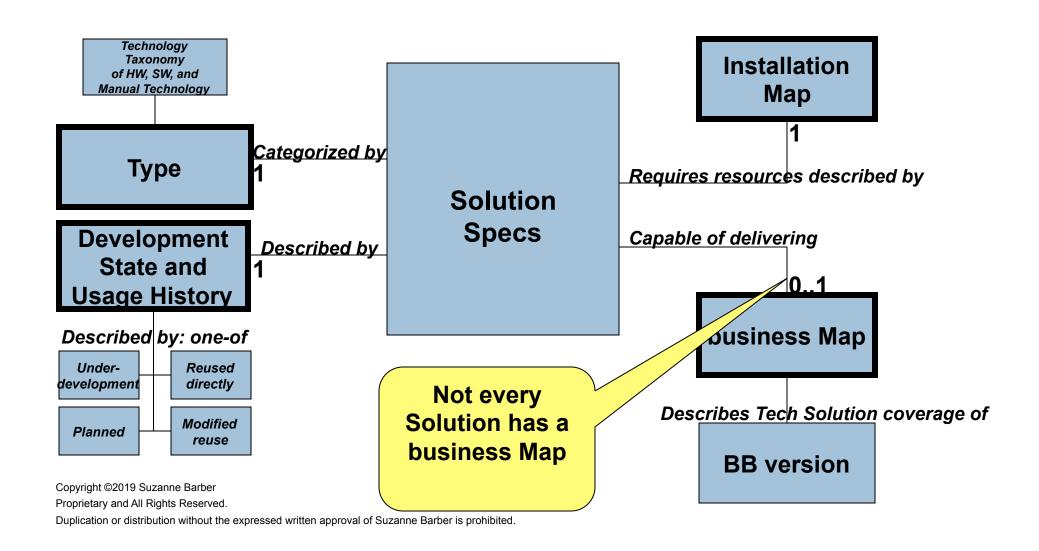
Specifying a Solution



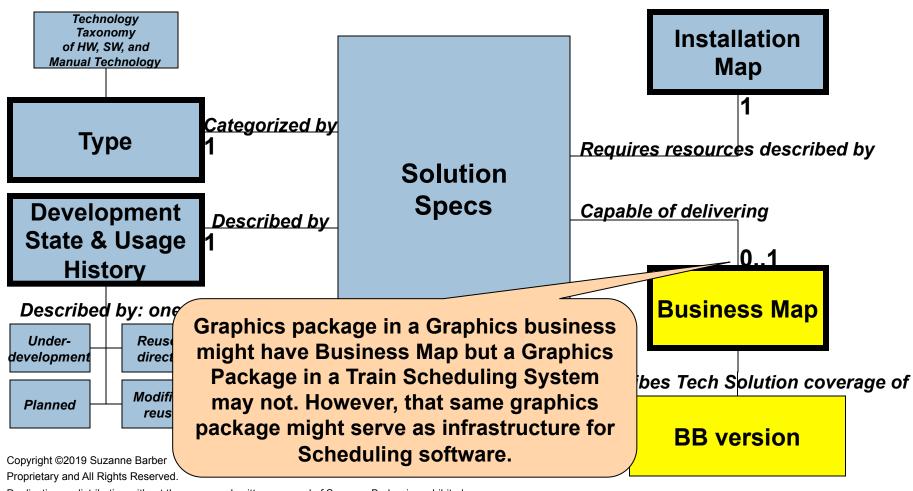
All Solutions require some set of infrastructure to be installed – their Installation Map.



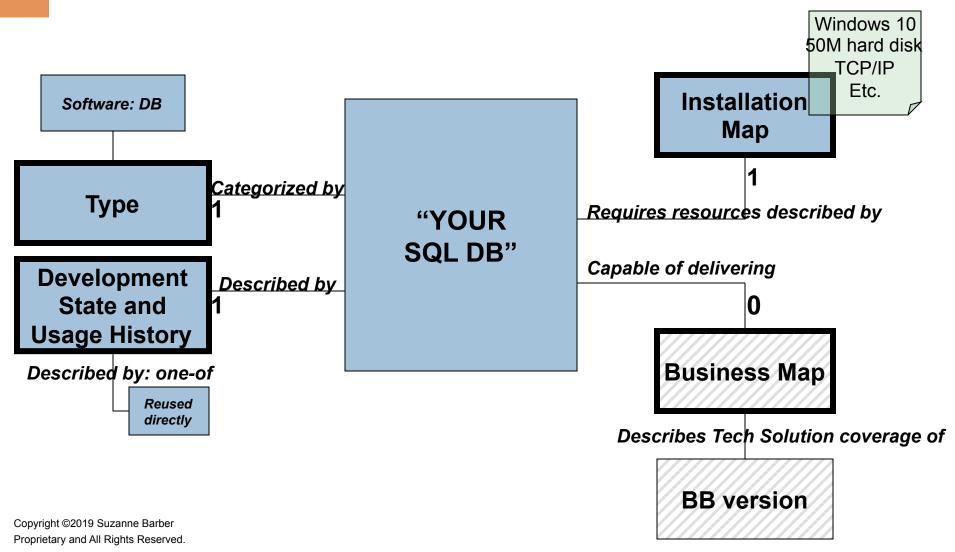
A Solution only has a Business Map if that solution satisfies/delivers functionality in the BB.



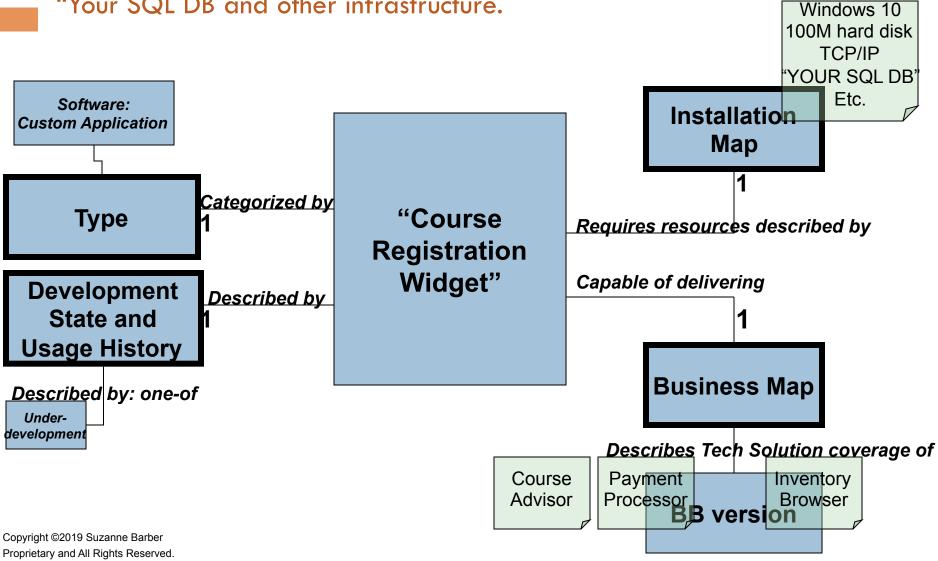
Since the BB is determined by the Domain, A Solution might have a Business Map for one BB but not another BB. (obvious, Solution can perform functionality in one BB but not all BBs)



Let's take the Course Registration Business Blueprint, the "Your SQL DB" Solution has an Installation Map ONLY



For the Course Registration Business Blueprint, the "Course Registration Widget" Solution has an Business Map because it satisfies functionality in three BB Components and has Installation Map requiring Windows, "Your SQL DB and other infrastructure.



Remember.....

- Solutions were selected for the Solution Blueprint based on the Business Map of respective Solutions.
 - The selected Solutions in the SB have infrastructure requirements (e.g. OS, networks, etc).
 - The select Solutions in the SB may require (have dependencies) on other solutions. And, those solutions may or may not have a Business Map.

The complete specification of a solution includes WHAT it can do (Business Map) and the HOW it does it using particular infrastructure (Installation Map)

A Technology Solution is specified in terms of :

1) <u>Type</u> = Classification in the Technology Ontology

2) <u>Business Map</u> = Coverage of BB version – services, attributes, topology

3) <u>Installation Map</u> = Details of installation requirements

To create Installation Map, register against business-independent Solution Ontology.

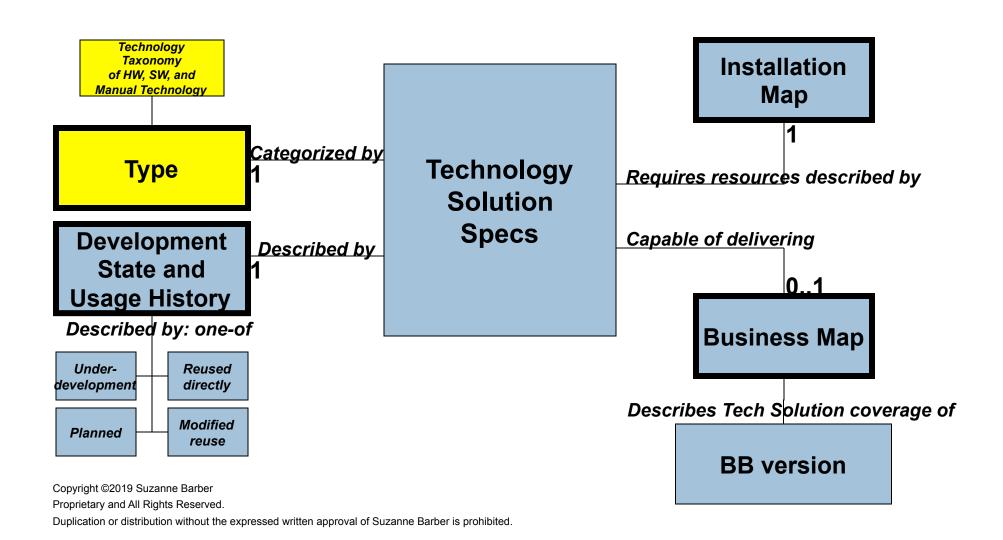
Solution **Specification** Installation Domain Map Information about Information about ... Registration to business **Registration to Business** independent **Blueprint Technology Ontology** Consists of ... Consists of Infrastructure **BBC Map** Map Interaction Map

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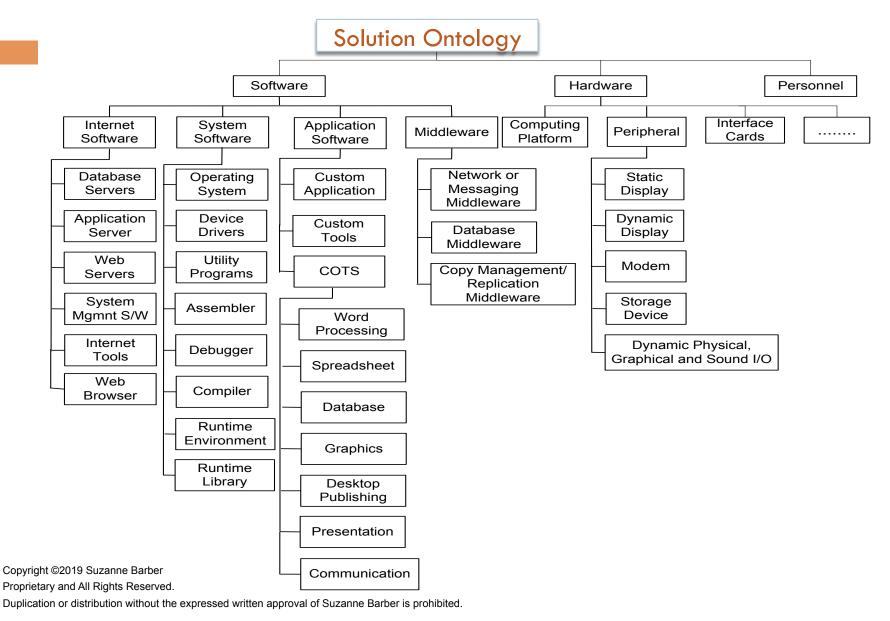
Solution Specification versions

- \square \triangle Soln Spec =
 - \square Δ content = Δ business map or Δ installation map
 - lacksquare Δ development state or Δ usage history
- lue Δ Soln Type constitutes a new Solution Specification

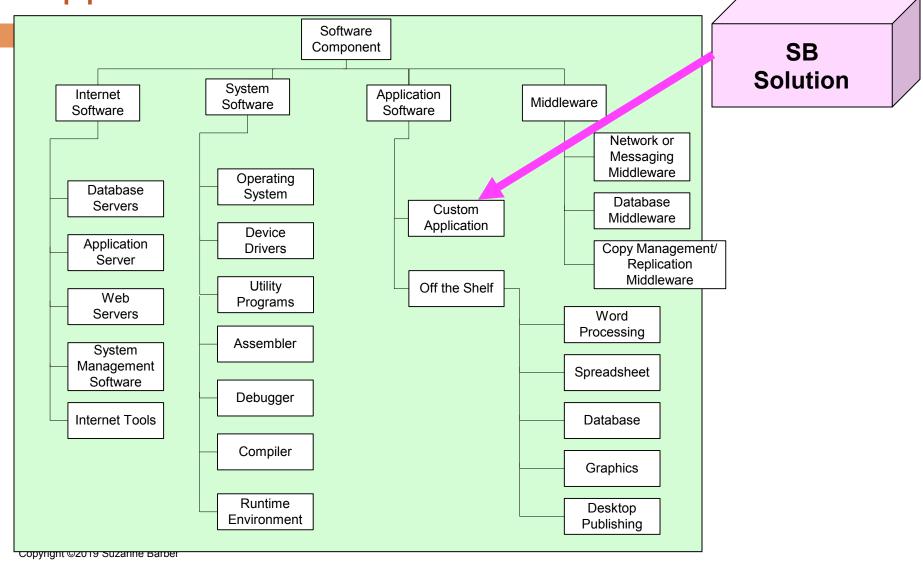
What is the Solution TYPE?



Available, known solutions need to be classified – A Solution Ontology is a way to create that organization

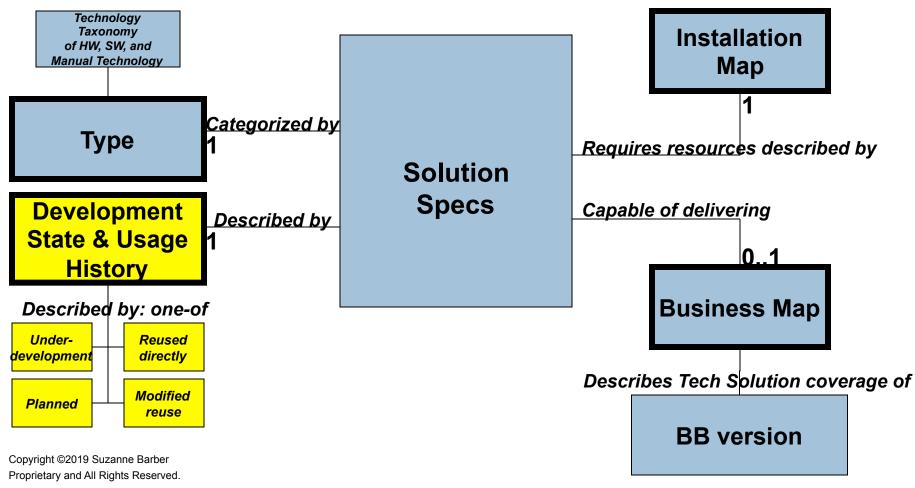


For example, this SB Solution is of type "Custom Application"

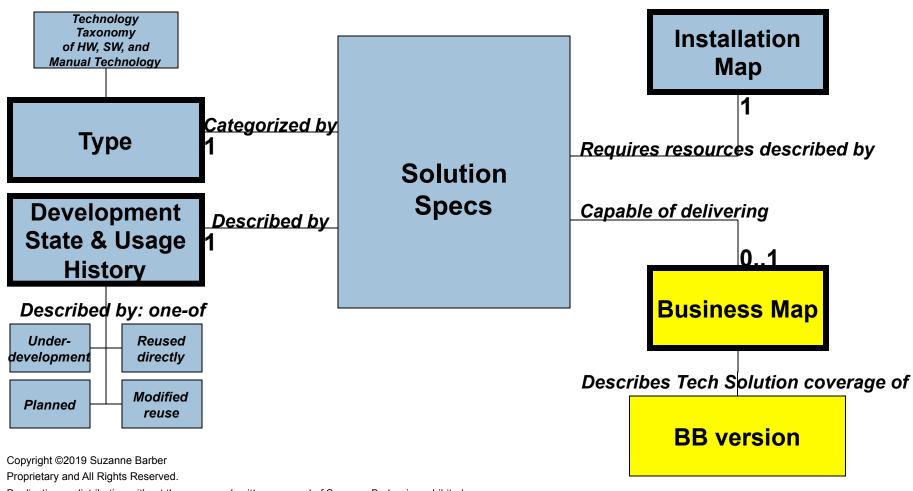


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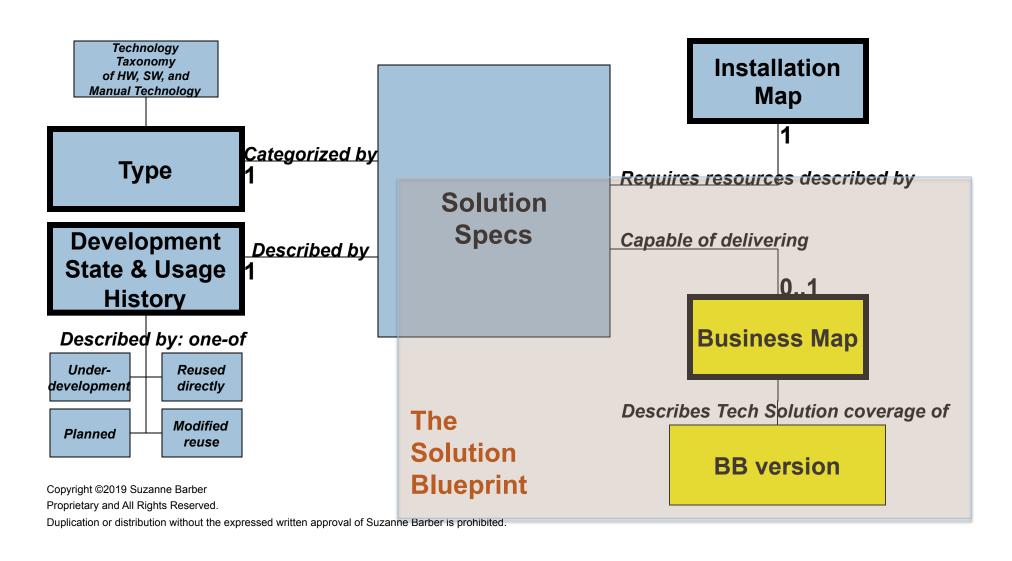
It is important for the Architect to know the maturity and experience with a Solution

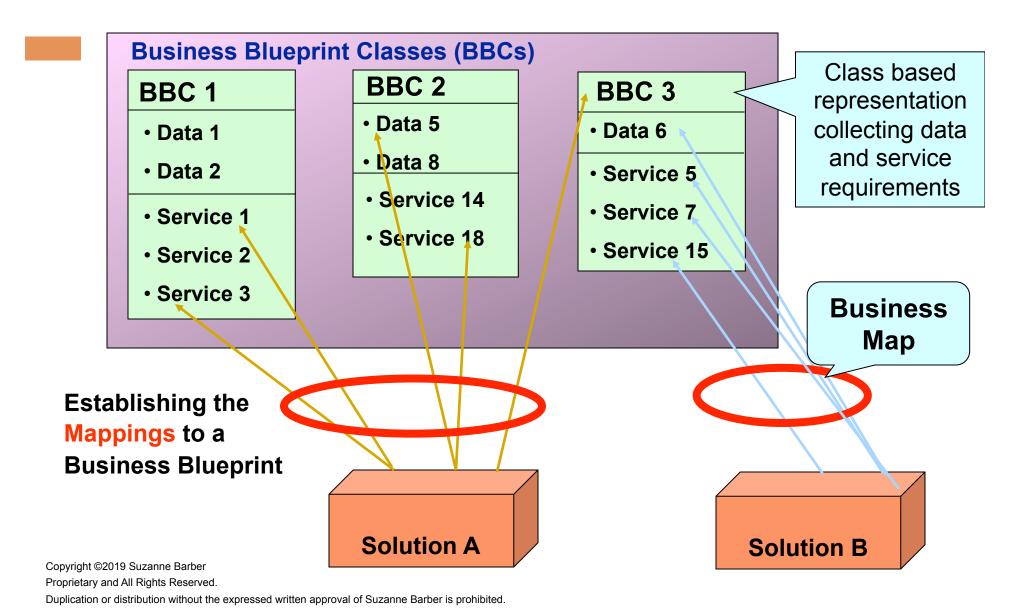


It is important for the Architect to know which portion of the BB version the Solution can deliver.

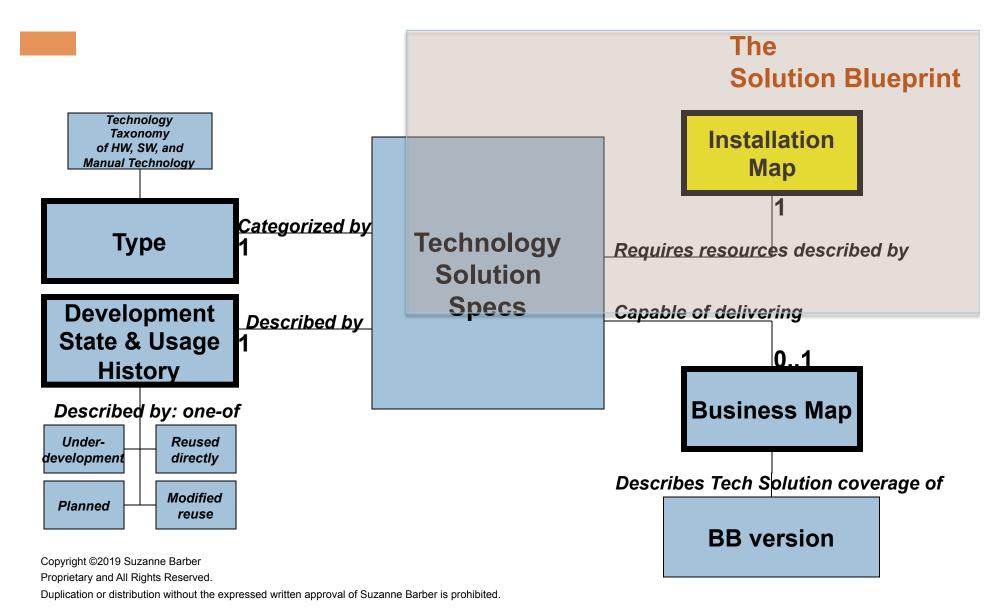


It is important for the Architect to know which portion of the BB version the Solution can deliver.





Specifying a Solution Installation Map is defined in the context of the Technology Ontology since it is not dependent on a BB



Remember.....

- Solutions were selected for the Solution Blueprint based on the Business Map of respective Solutions.
 - The selected Solutions in the SB have infrastructure requirements (e.g. OS, networks, etc).
 - The select Solutions in the SB may require (have dependencies) on other solutions. And, those solutions may or may not have a Business Map.

Infrastructure Map

captures the requirements for installation of the Solution on its base platform

Interaction Map

captures information about a Solution's interaction with other system components

Installation Map Core Infrastructure Interaction Map Map Computing Computing Peripheral Peripheral Platform Platform Map Map Dynamic Network Dynamic Network Display Display Map Support Map Support Operating Operating **Database Map** Database System Map System Runtime Runtime Env. Middleware Middleware Environment Map Map COTS Runtime Runtime COTS Libraries Map Libraries Package Map Package User Interface Custom App. Custom User Interface Map Map **Application** Data Installation Installation Data Info. **Transport Map** Info. Map **Transport** Performance Performance Monitor Monitor Map

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Solution Installation Reqmts

- Completion of the Solution Specification sheet is answering the question:
 - What does it take to install the Solution?

Technology Solution Name:
Version:
Company:
Source:
Date:
Computing Platform
Operating Systems
Display Requirements
Runtime Environment
Runtime Libraries
User Interface
Installation Information
Performance Monitor Tools
Peripherals
Network Support Requirements
Database Requirements
Middleware Requirements
COTS Requirements
Custom Application Requirements
Data Transport

Name and Versioning Information

Solution Name:	
/ersion:	
Company:	
Source:	
Date:	

Computing Platform Requirements

Computing Platform Requirements
Hard Disk:
Disk Interface:
Memory:
Memory Type:
Video RAM:
Processor ISA:
Processor Type:
Processor Speed:
Cache Size:
Pagefile Size:
CD Rom Speed:
Network Interface:
USB Ports:
Sound Hardware:

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Operating System Requirements

Operating Systems Requirements						
Name	Version	Provider	Service Pack Name	Service Pack Version		

Display Requirements
Type:
Size:
Maximum Resolution:
Refresh Rate:
Horizontal Scan Frequency:
Horizontal Viewing Angle:
Vertical Scan Frequency:
Vertical Viewing Angle:
Color Depth:
Pixel Pitch:
Contrast Ratio:
Bandwidth:
Screen Technology:
Screen Size:
Viewable Area:
Video Input:
© Weight:
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Runtime Environment and Libraries Requirements

Runtime Environment Requirements
Distributed Runtime Environment Name:
Distributed Runtime Environment Version:
Runtime Environment Name:
Runtime Environment Version:

Runtime Libraries Requirements			
Name	Version	Install Location	

User Interface Requirements

User Interface Requirements
Look and Feel:
Navigation:
Message/Caption Capabilities:
System Response Capabilities:
User Response Aids:
User Information Logging Capabilities:
System Notification Capabilities:

Performance Monitor Tools and Peripherals

Performance Monitor Tools Requirements				
Name	Version	Provider		

Peripherals Requirements				
Туре	Interface Card	Device Driver	Device Driver Version	Port

Network Support Requirements

Network Support Requirements
Application Protocol:
Network Protocol:
LAN Communication Type:
LAN Communication Speed:
WAN Communication Type:
WAN Communication Speed:
Other Communication Type:
Other Communication Name:
Ports Used:

Database Requirements

Database Requirements
Name:
Version:
Database Driver:
Other Connectivity Requirements:
Provider:

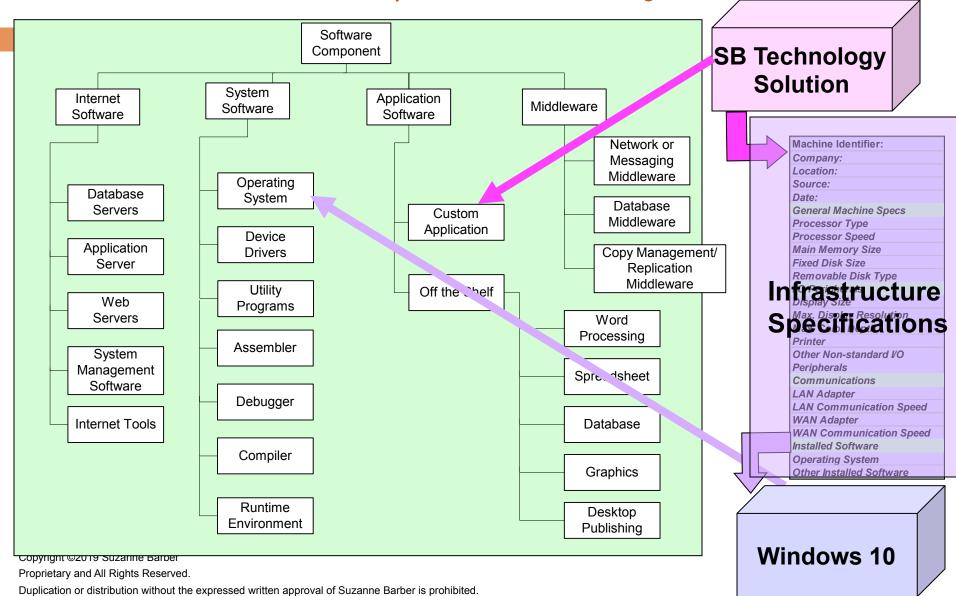
Middleware, COTS, Custom Apps, and Data Transport

Middleware Requirements			
Туре	Name	Version	Provider
COTS Requirements			
Туре	Name	Version	Provider
Custom Application Requirements			
Name	Version	Provider	Method of Interaction
Data Transport Requirements			
Method of Transfer to other Applications:			
Method of Transfer from Other Applications:			

General Installation Information

Installation Information Requirements
Install Location:
Components in System Directories:
Installation Order:
Installation Method:
Required System Files:
Modified System Files:
Update Method:
Registry Modifications:

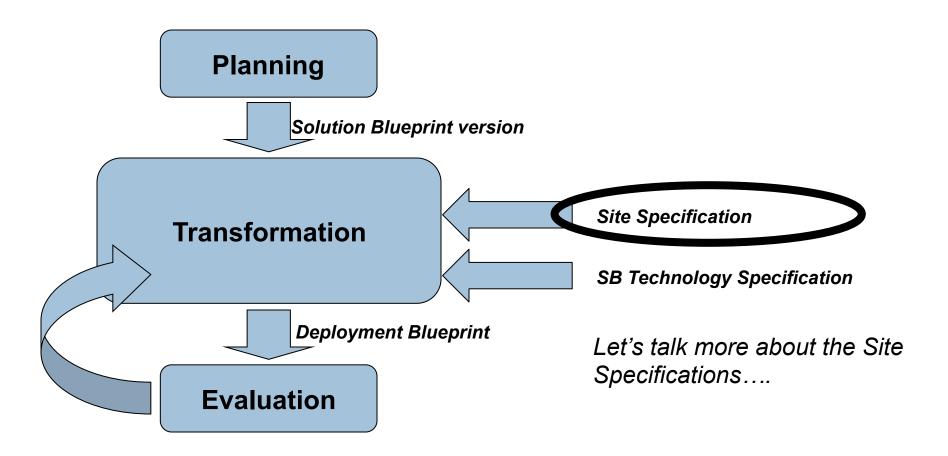
SB Solution is of type "Custom Application" with infrastructure that includes an Windows 10 (of type OS). Windows 10 is a Solution with no Business Map for the Course Registration BB.



Summary: Technology Registration

- Solution Specification Representation richly describes a Solution in terms of
 - Membership in a Solution Class (Solution Ontology)
 - Development State and Usage History
 - WHAT the Technology does (Business Map describing compliance to BB services, attributes, I/O, topology)
 - HOW the Technology is implemented (Installation Map describing technology infrastructure and interaction requirements)
- Metrics to Evaluate Solutions
 - Enable Third Party to evaluate the EXTENT to which THEIR business requirements and BB topology are satisfied by existing Solutions (SB scope of concern)
 - Enable Third Party to evaluate the EXTENT to which Solution installation requirements are compatible with Site installation capacity/constraints.

DB Transformation process allocates SB technologies to the Site physical environment.

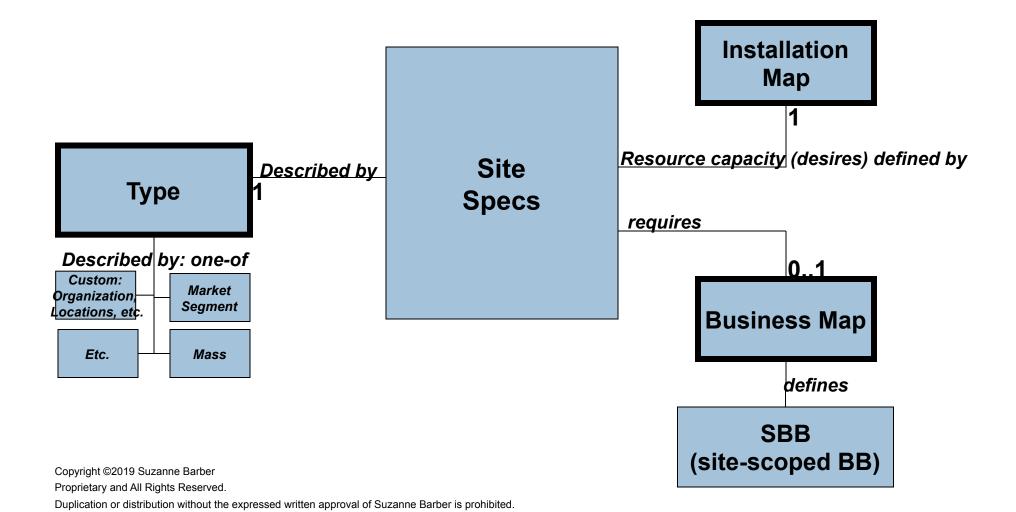


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Elements of a Site Specification



Site Installation Requirements

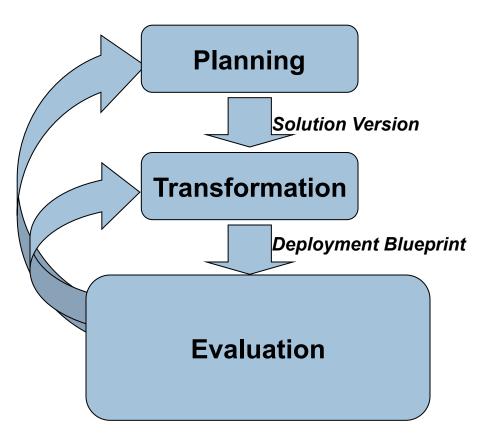
- Completion of the Site Specification sheet is answering the question:
 - What constraints are imposed by the Site's infrastructure?

Site Name:
Organizational or Geographic Context:
Contact:
Source of Requirements: Date:
Type: Custom Location, Market Segment, Mass
Computing Platform
Operating Systems
Display Requirements
Runtime Environment
Runtime Libraries
User Interface
Installation Information
Performance Monitor Tools
Peripherals
Network Support Requirements
Database Requirements
Middleware Requirements
COTS Requirements
Custom Application Requirements
Data Transport

Site Specification versions

- \square \triangle Site Spec =
 - lacksquare Δ content = Δ business map or Δ installation map
- \square Δ Site Type constitutes a new Site Specification

DB Evaluation Process



Evaluate:

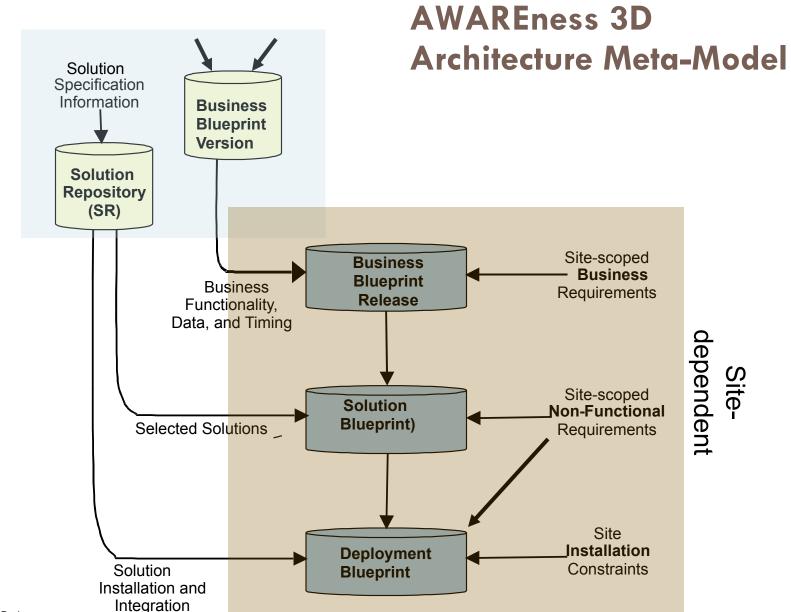
- DB degree of compliance to Site installation constraints
 - SB Solution compatibility to target platforms
 - Integration of Solutions and Platforms

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Requirements