

Improving Coordination and Collaboration in Connected and Automated Vehicle Development Projects

Using Model Based Process Design

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Why?
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רכב אוטונומי: הטכנולוגיה כבר כאן, הרגולציה לא

המכשול הגדול ביותר שניצב בפניי הרכב האוטונומי אינו חסמים טכנולוגיים הרגולציה באירופה ובארה"ב • הסדרת התחום תלויה כעת במלחמות לובי / חברות ענק שרוצות לקדם את הטכנולוגיות הספציפיות שלהן דרך חקיקה -

לחסום את המתחרות

דובי בן גדליהו 12/12/18

4.044 מיליארד ד'

היקף גיוסים מצטבר של חברות
סטארט־אפ ישראליות בתחום
התחבורה בין השנים 2006-2017

Billions of \$\$\$ at stake!

3,435

חברות סטארט־אפ ישראליות בתחום
התחבורה פעלו בין השנים
2006-2017. יותר ממחציתן מפתחות
פתרונות לתחבורה חכמה

Multiple players!

מקור: משרד רה"מ, התכנית הלאומית
לתחליפי דלקים ותחבורה חכמה

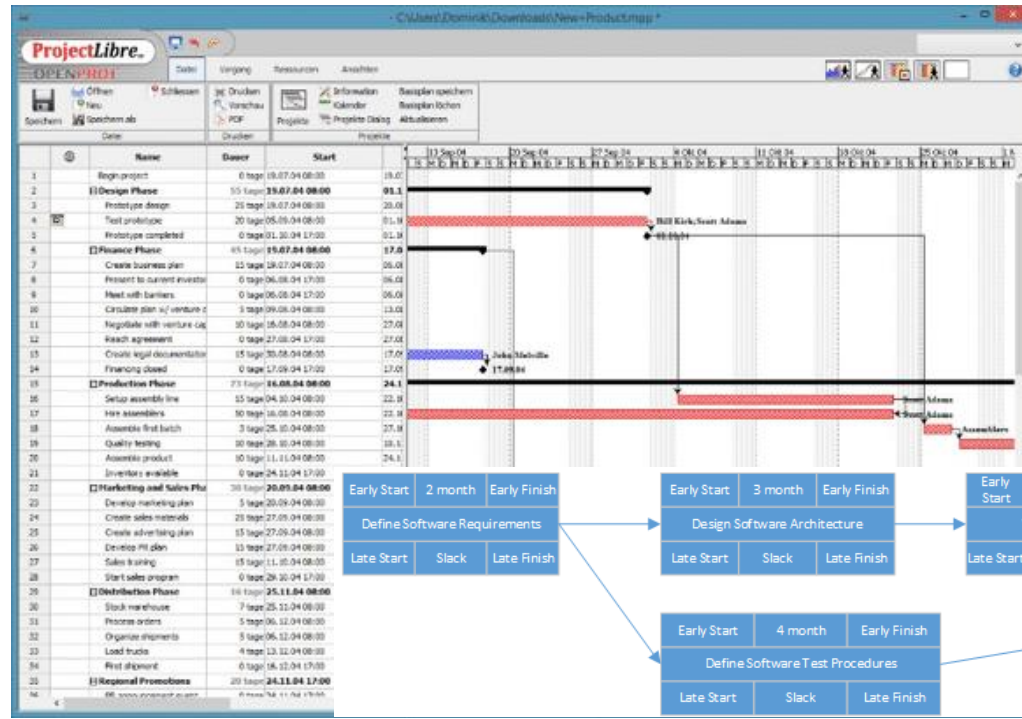
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~~Why?~~

“Plans are nothing,
Planning is everything”

- Dwight D. Eisenhower

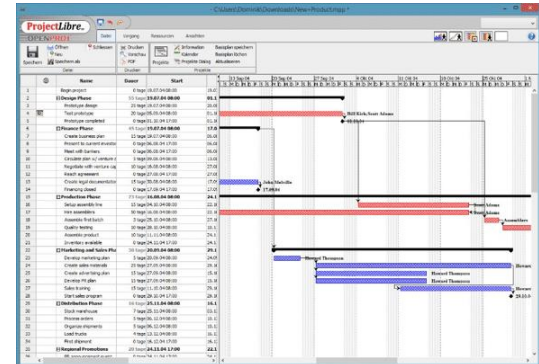
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Development Processes Should Be Properly & Continuously Planned

1. Establish goals
2. Identify prerequisites
3. Allow manageability
4. Detect change/anomaly/variation/deviation

Not a good human interface
for planning!



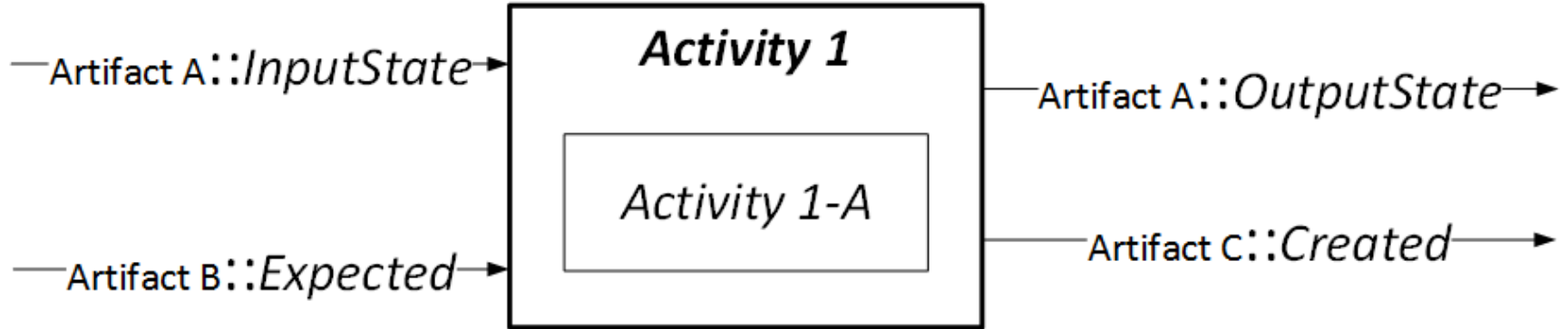
Introducing PROVE

PROVE – Process Oriented Viewpoint Engineering

A Development Process Design Framework

Notation & Method

PROVE Notation

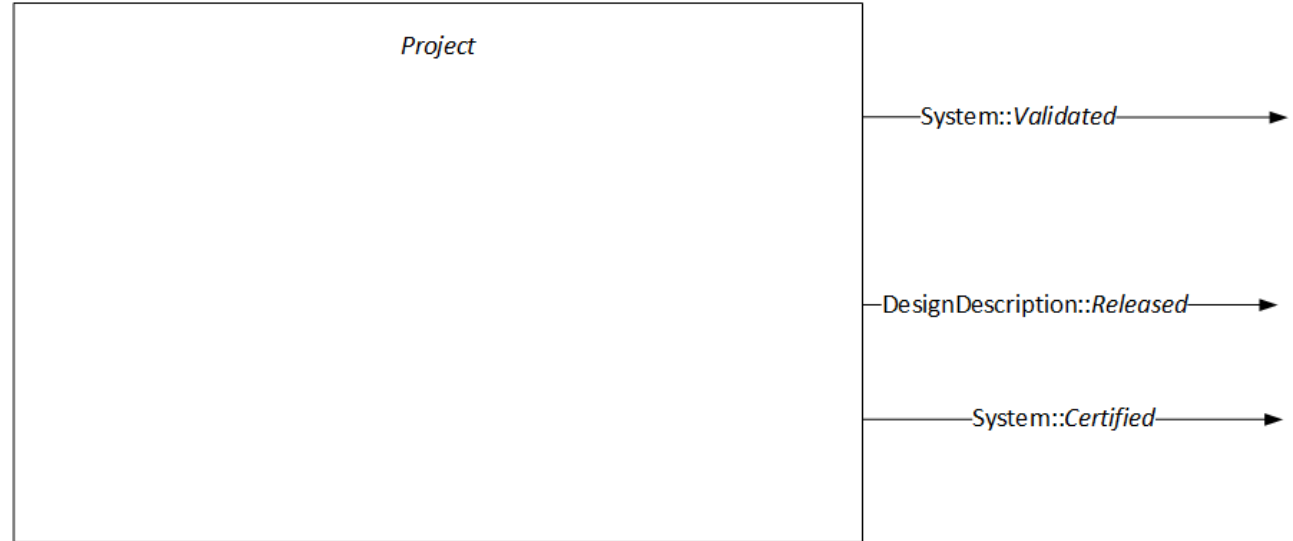


PROVE Method

Project

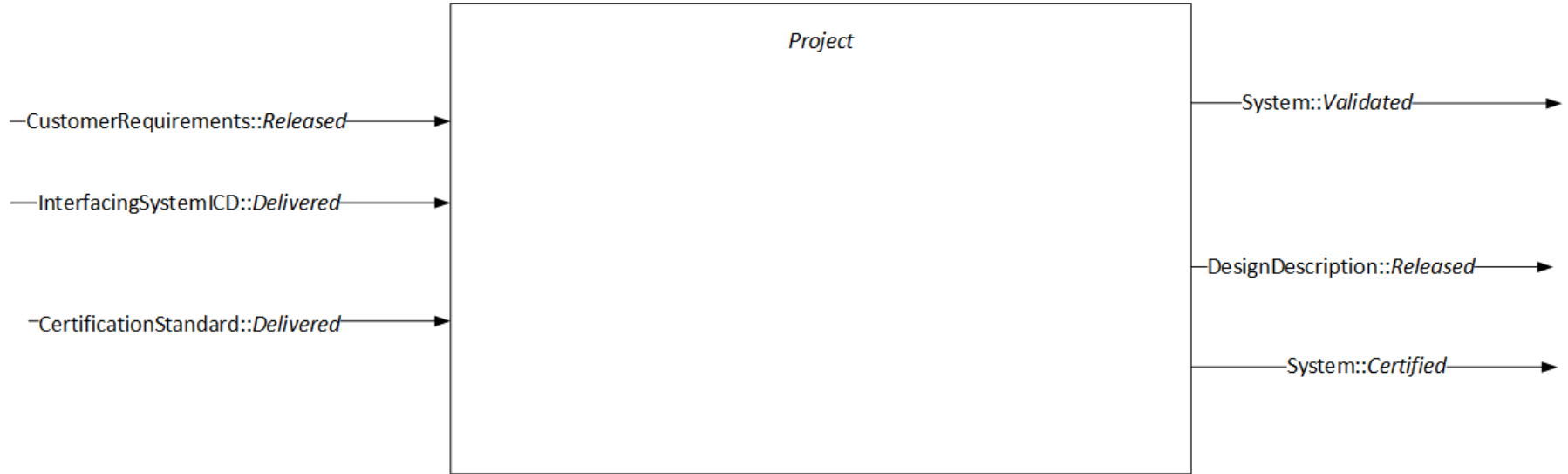
PROVE Method

I: Desired Goals



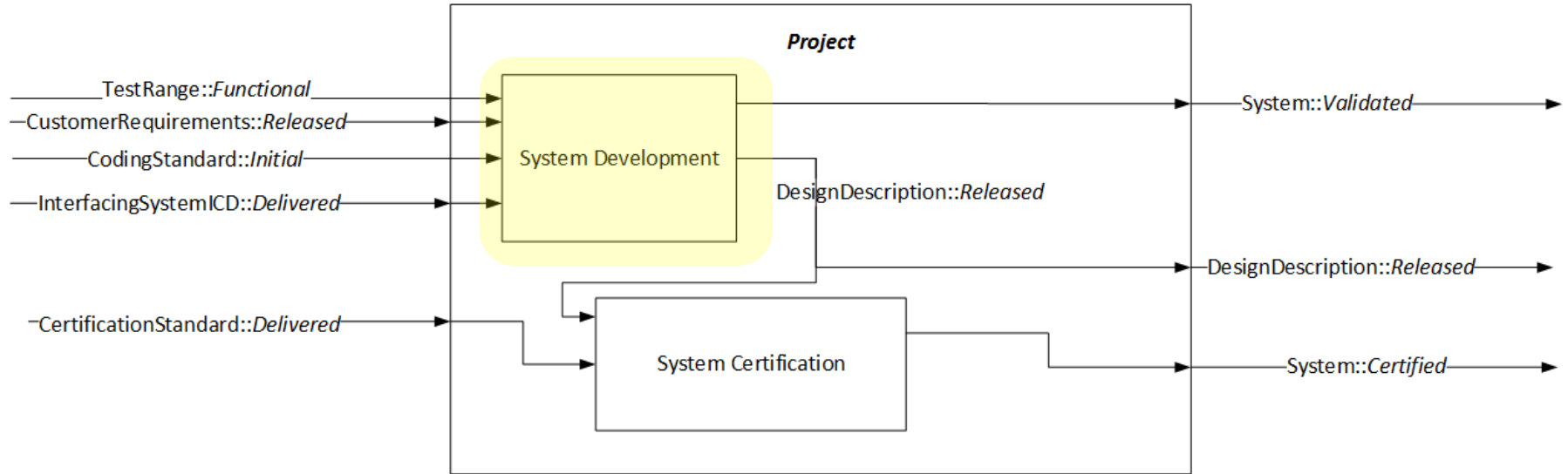
PROVE Method

II: Inputs



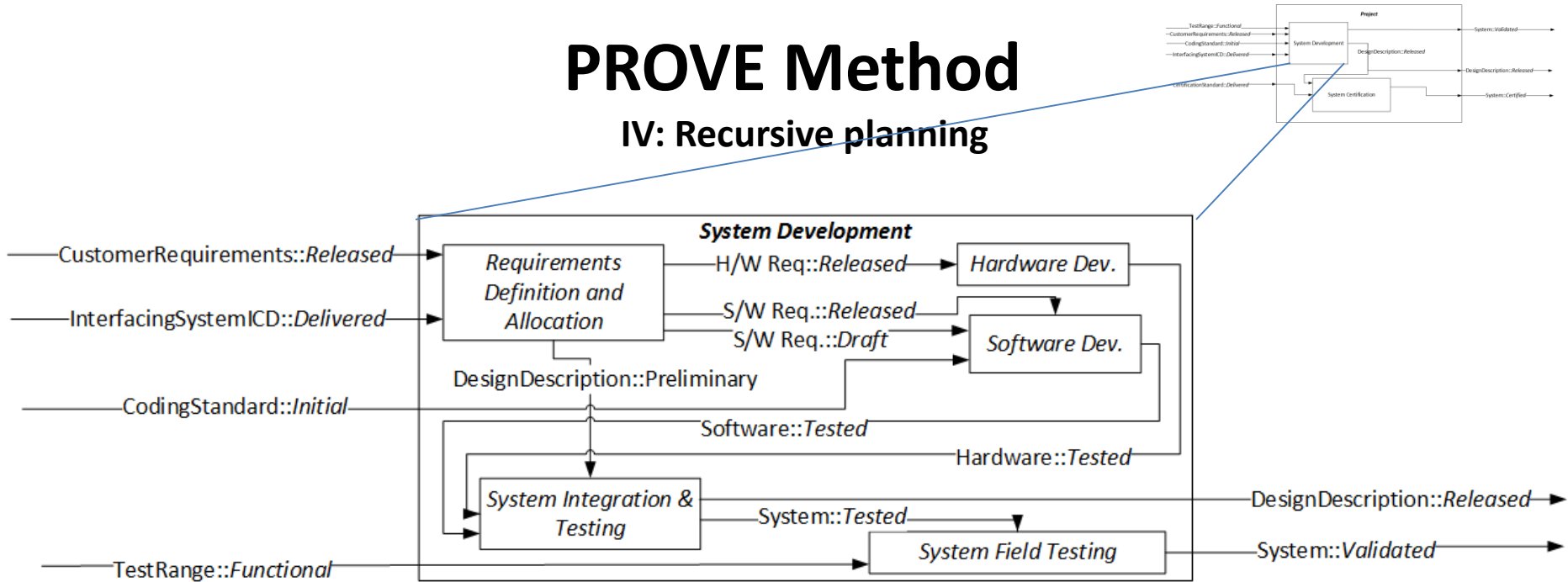
PROVE Method

III: Activities



PROVE Method

IV: Recursive planning

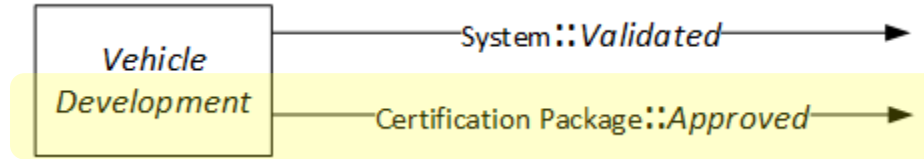


For additional method steps see our SoSE 2018 paper (DOI: 10.1109/SYSOSE.2018.8428767)!

Development Processes Should Be Properly & Continuously Planned

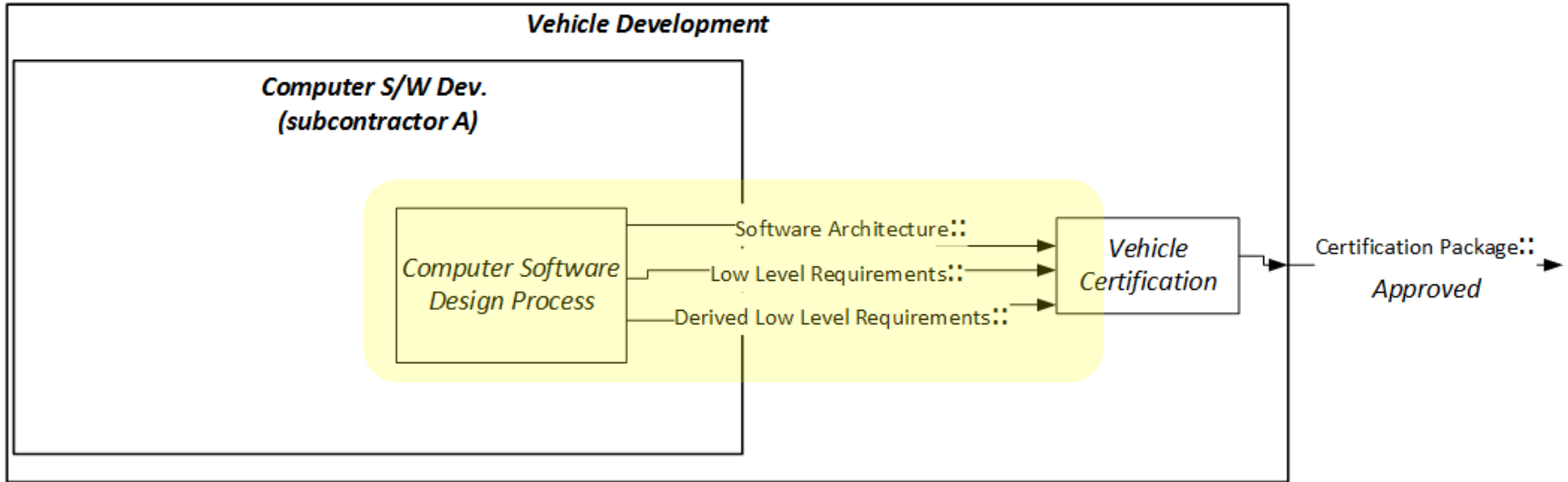
1. Establish goals
2. Identify prerequisites
3. Allow manageability
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1. Use PROVE to Establish Goals

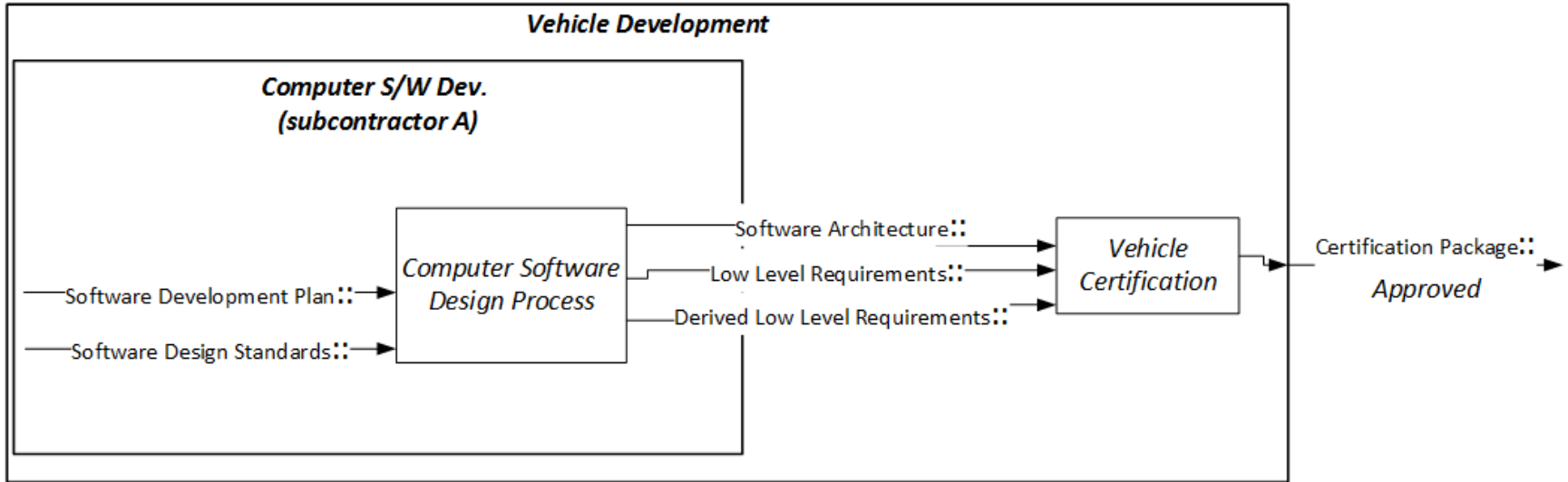


1. Use PROVE to Establish Goals

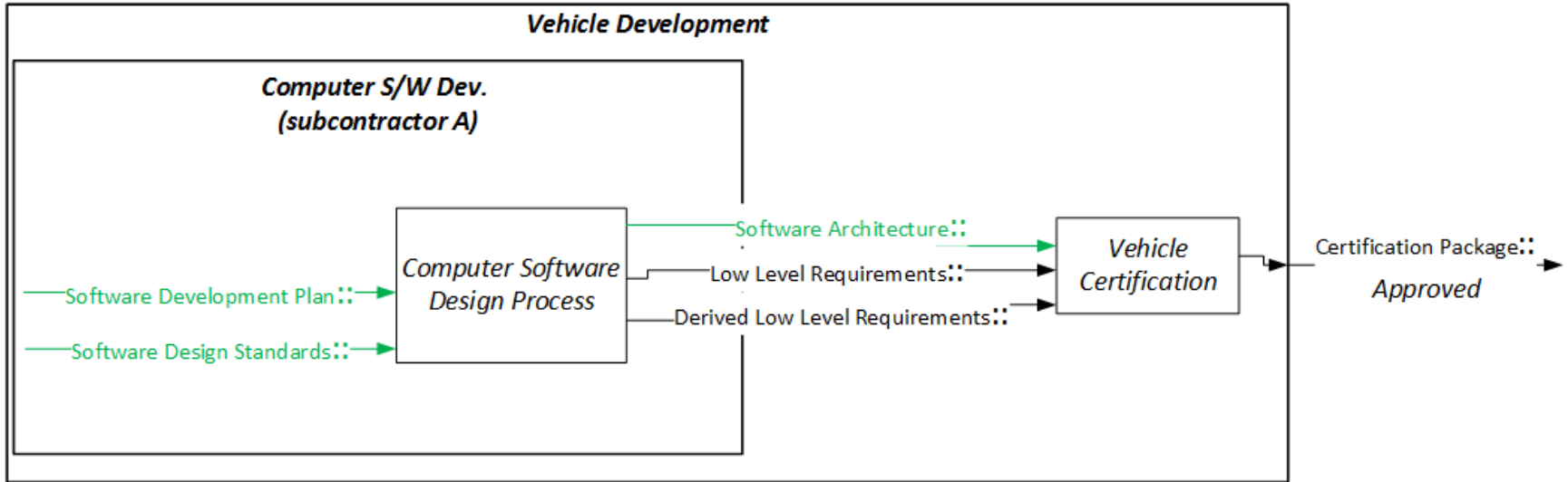
In different hierarchies!



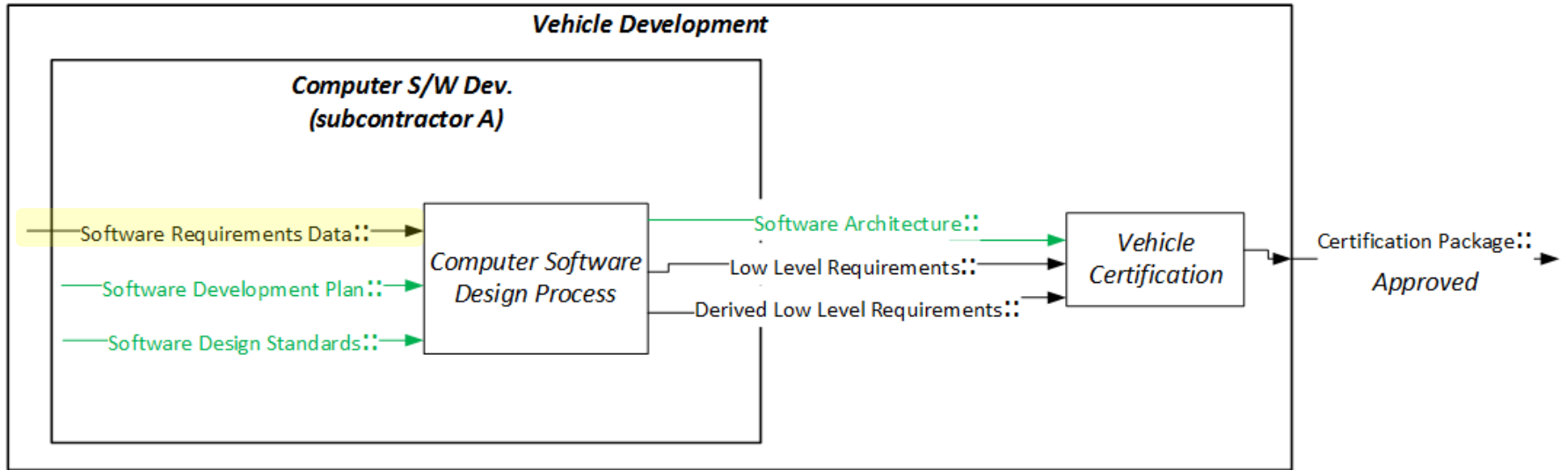
2. Use PROVE to Specify Prerequisites



3. Use PROVE to Manage Engineering



4. Use PROVE to Detect Change



PROVE is Beneficial for System Development Efforts

- Approachable implementation
- Process orientation
 - Allows establishing scopes & policy
 - Promotes multi-level process consistency & completeness
- Communicable, structured model
 - Promotes better process coordination
 - Facilitates pattern mining & reuse

*Detailed in our
SAE Technical Paper!*



A disciplined, coordinated development process

Thank You

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