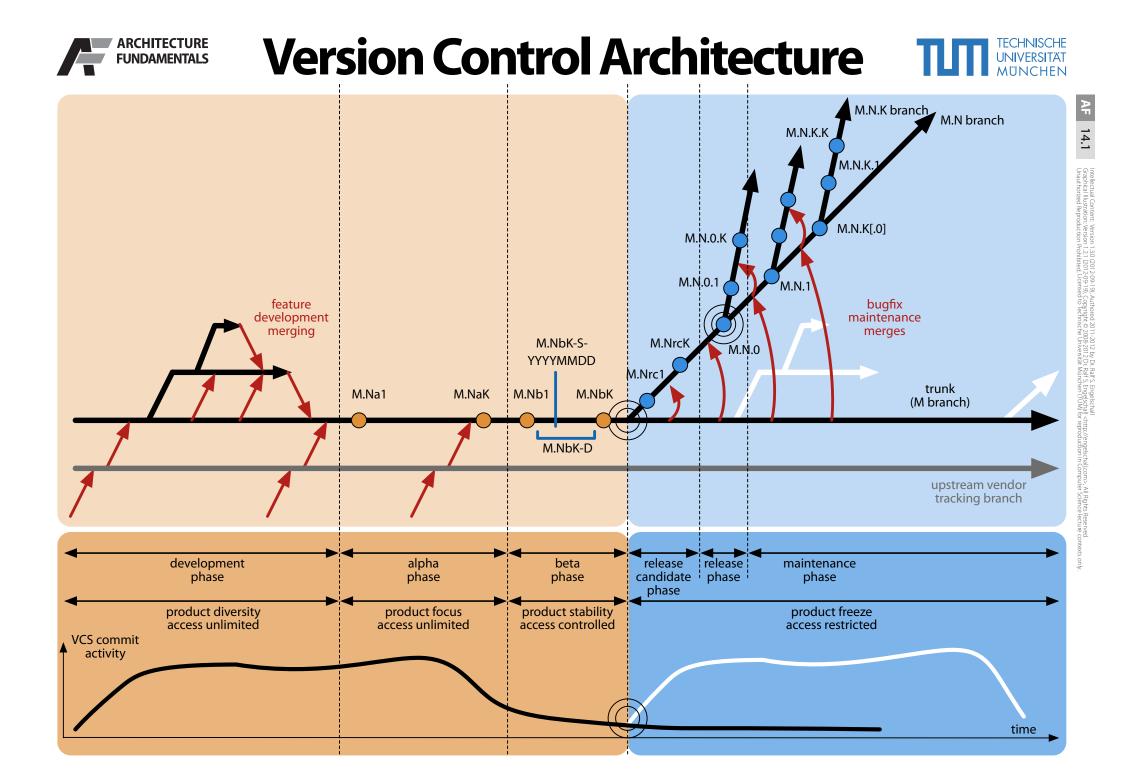
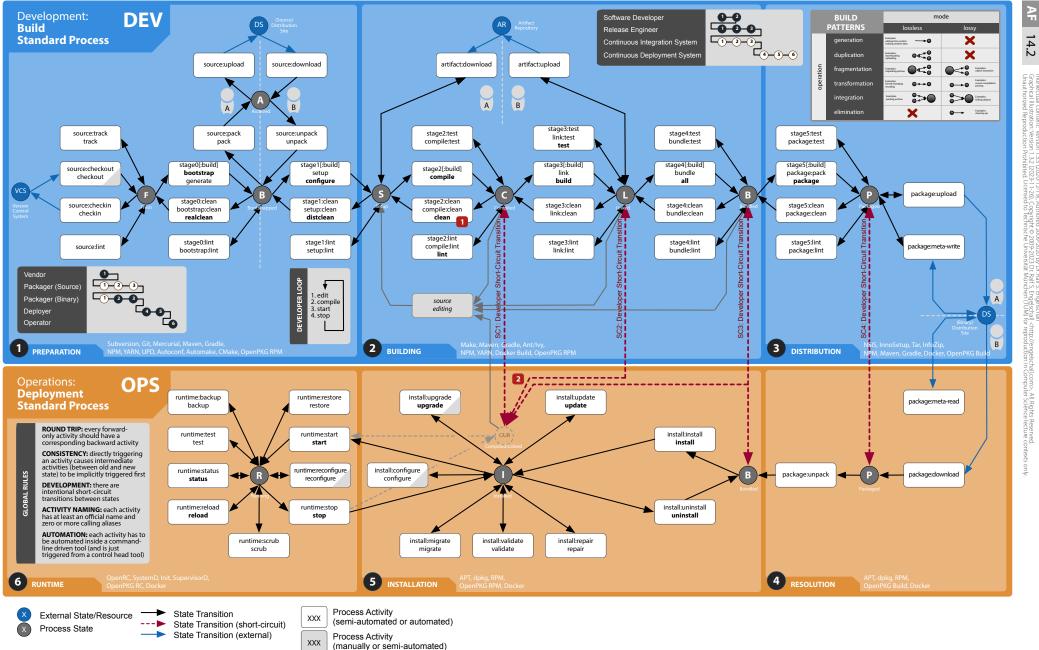
#### TECHNISCHE UNIVERSITÄT MÜNCHEN

#### Software Engineering in der industriellen Praxis (SEIP)

Dr. Ralf S. Engelschall



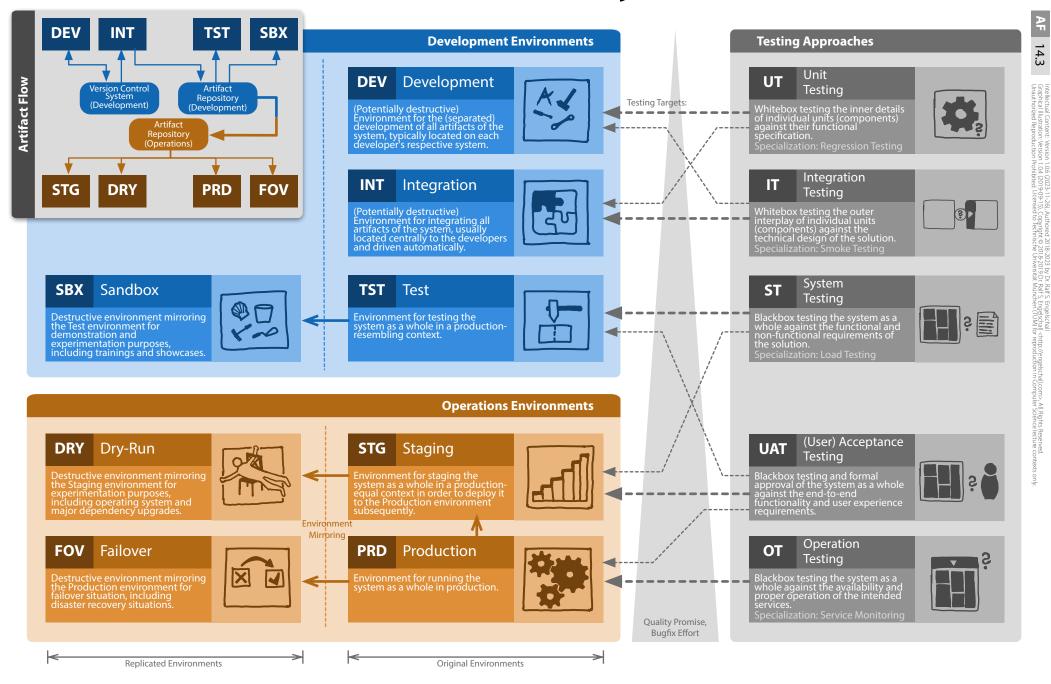




ARCHITECTURE FUNDAMENTALS

r. Ralf S. Enge r. Ralf S. Enge : München ( II <http://engeisc for reproduction i chall.com>, All Rights Reserved. In Computer Science lecture of

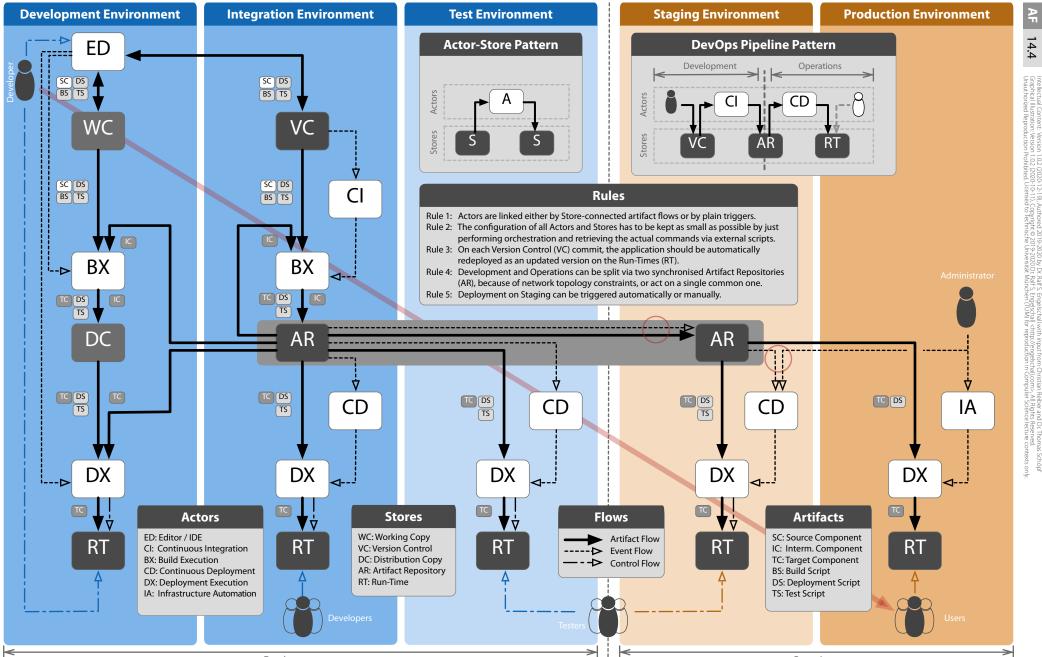
### FUNDAMENTALS Environments & Quality Assurance





## **DevOps Toolchain**

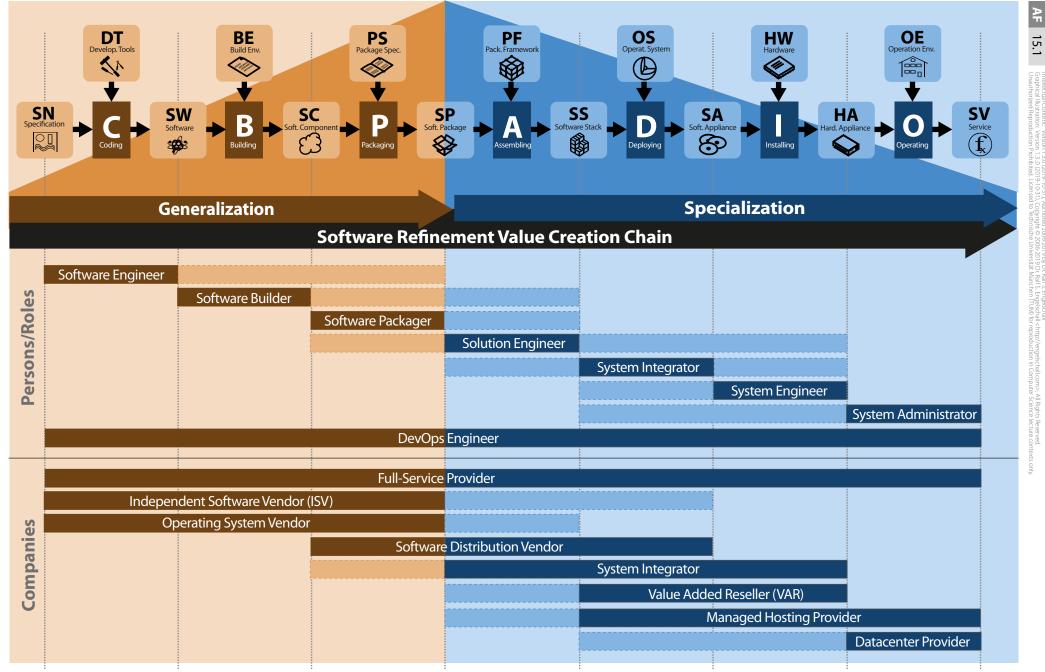




Development

Operations







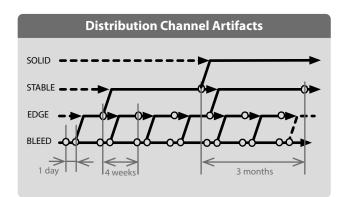
# Software Release Management

Evolution	Stage What?	Version Number When?	Release	Phase (p) When?	Points-In-Time (PiT) Whe
WF Wireframe	WS Walking Skeleton	M Major Version	A Alpha	C Candidate	<b>DEV</b> Development
Distraction-free low-fidelity illustration R of the solution and its base features, a displaying its pure structure and core of functionality only.	Realization of all technical, fundamental spects of the solution, ensuring the domain specific aspects can be realized ater on top of it without problems.	Major Version of solution. Usually bumped on major technical or domain- specific changes only. A bump resets the Minor Version and the Revision, too.	Early version of the solution with incomplete and unstable functionalities to get feedback on product. Usually tagged as "M.NaR" ( $R > 0$ ).	Mature version of solution with complete and stable functionalities to catch last-minute problems. Usually tagged as "M.NrcR" (R > 0) around RTM.	Arbitrary permanent points-in-time during development. This is the default tag for the source code. Intended for no availability releases.
PT Prototype	MVP Minimum-Viable Product	<b>N</b> Minor Version	B Beta	R Release	<b>SNP</b> Snapshot
High-fidelity mostly interactive sample, E mockup, model or simulation of the solution and its base features, show- casing its structure and functionality.	Early version of solution with just enough functionality to enable full turn of Build-Measure-Learn loop with ninimal amount of effort and time.	Minor Version of the solution within the Major Version. Usually bumped on new features. A bump resets the Revision, too.	Early version of the solution with complete but still unstable functionalities to stabilise product. Usually tagged as "M.NbR" (R > 0).	Release version of the solution with complete and stable functionalities, available for production use. Usually tagged as "M.N.R" (R >= 0).	Distinct temporary point-in-time for a release of the current version without a version increase. Intended for limited availability releases.
PoC Proof of Concept	<b>FP</b> Full Product	<b>R</b> Revision			<b>REL</b> Release
Pure realization of most-risky aspects of the solution, proofing their feasibilities. Might still be based on a different technology than WS, MVP and FP.	inal version of the solution with all ntended functionality and targeting the mainstream market.	The Revision of the Release Phase within Major and Minor Version. Bumped for every A/B/C/R Release Phase.			Distinct temporary point-in-time for a release of the current version with a version increase. Intended for early and general availability releases.
arbitrary technology >	< target technology >				
Product E	dition Which?	Availabili	ty Scope (S) Who?	Distribut	tion Channel Where?
CE Community Edition	STD Standard Edition	XA No Availability	EA Early Availability	BLEED Bleed Channel	STABLE Stable Channel
Source Community. Contains just the s	Edition of the solution with just the standard functionality and regular support.	No public availability of solution at all. The scope for all Development and sometimes Snapshot point-in-times.	Early public availability of solution for early market. Usually for Beta or Release Candidate levels or for Release and initial Release Update levels.	Distribution channel for all daily snapshots ("YYYYMM.DD") with experimental features turned on. Intended for testing purposes only.	Distribution channel for all quarterly releases ("YYYY.ON") with experimental features turned off. Intended for fast mainstream market and production use.
EE Enterprise V Edition	PRO Professional V Edition	LA Limited Availability	<b>GA</b> General Availability	EDGE Edge Channel	SOLID Solid Channel
Edition of the solution for the Enterprise	Edition of the solution with both the	Limited public availability of solution.	Late public availability of solution for	Distribution channel for all monthly	Distribution channel for all (half-)year



niciti						
		ХА	No Availability	EA	Early Availability	
e		No public availability of solution at all. The scope for all Development and sometimes Snapshot point-in-times.		Early public availability of solution for early market. Usually for Beta or Release Candidate levels or for Release and initial Release Update levels.		
۲		LA	Limited Availability	GA	General Availability	
he and		Limited public availability of solution. Usually for releases after the End-of- Life-Announcement (EOLA) or for releases with specific customer features.		Late public availability of solution for mainstream market. Usually for Release and sometimes just for Release Update levels.		

.o?		Where			
	BLEED	Bleed Channel	STABLE	Stable Channel	
se	snapshots ("YYYY.MM.D experimental features to	Distribution channel for all daily snapshots ("YYYY.MM.DD") with experimental features turned on. Intended for testing purposes only.		Distribution channel for all quarterly releases ("YYYY.QN") with experimental features turned off. Intended for fast mainstream market and production use	
	EDGE	Edge Channel	SOLID	Solid Channel	
se	releases ("YYYY.MM") wi features turned on. Inte	Distribution channel for all monthly releases ("YYYY.MM") with experimental features turned on. Intended for early market or testing purposes.		Distribution channel for all (half-)year releases ("YYYY[.N]") with experimental features turned off. Intended for slow mainstream market and production use	



 $M \cdot N p R [ \cdot D ] [ + H ] [ - S ]$ Examples: 1.2a3.20230101+F42A-XA

Versioning Scheme (stdver.org)

1.2b3-EA 1.2.3-GA 1.2.3

#### **Product Life-Cycle**

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