Variation Points

Variation Point	Affected Element or Relation	Variants	Condition	Binding Time
VP1: Host name of the SMTP server used by the system to send e-mail messages	*emailer*	Any valid host name.	Whenever the SMTP host changes. Also used to switch between development and test environments.	Load time
VP2: External storage and content delivery services in use	*filemanager*	List of Web services; shall differentiate whether the service is available in the development, test, and/or production environments.	At least one storage service must be configured. A submodule that handles communication with a given new service must be available prior to enabling a service.	Load time
VP3: Access keys to storage and content delivery Web services	*filemanager*	For each storage and content delivery service enabled (such as Scribd, S3, YouTube), there will be a set of access parameters (such as URL, user ID, password).	Only used if the corresponding service is enabled in VP2.	Runtime
VP4: Performance-monitoring switch	*util*; *logging*; *aspects*	True if the response time of requests needs to be monitored and recorded; false otherwise. Must be configurable separately for development, test, and production environments.	Must be set to true when the SLA is in effect or for debugging purposes. If false, the corresponding submodules and artifacts may be excluded from the build.	Build time

Table 1: Variation points, affected elements, conditions, and binding times.