Kubernetes

The Kubernetes variability model synthesized from the API Reference documentation.
Tags: Kubernetes, containerization, deployment, manifest files, orchestration platform
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Domain: Deployment software

Features	**738**	
Abstract features	13	(2%)
Abstract leaf features	0	(0%)
Abstract compound features	13	(100%)
Concrete features	725	(98%)
Concrete leaf features	550	(76%)
Concrete compound features	175	(24%)
Compound features	188	(25%)
Leaf features	550	(75%)
Root feature	1	(0%)
Top features	11	(1%)
Solitary features	532	(72%)
Grouped features	206	(28%)
Typed features	319	(43%)
Numerical features	57	(8%)
Integer features	57	(8%)
Real features	0	(0%)
String features	262	(36%)
Multi-features	61	(8%)
Tree relationships	**569**	
Mandatory features	194	(36%)
Optional features	337	(63%)
Feature groups	38	(7%)
Alternative groups	34	(89%)
Or groups	4	(11%)
Mutex groups	0	(0%)
Cardinality groups	0	(0%)
Depth of tree	**8**	
Mean depth of tree	4.83	
Branching factor	**3.92**	
Min children per feature	1	
Max children per feature	28	
Avg children per feature	1	
Cross-tree constraints	**93**	
Logical constraints	59	(63%)
Single feature constraints	0	(0%)
Simple constraints	34	(58%)
Requires constraints	28	(82%)
Excludes constraints	6	(18%)
Complex constraints	25	(42%)
Pseudo-complex constraints	14	(56%)
Strict-complex constraints	11	(44%)
Arithmetic constraints	34	(37%)
Aggregation constraints	0	(0%)
Features in constraints	172	(23%)
Min features per constraint	1	
Max features per constraint	19	
Avg features per constraint	2.61	
Avg constraints per feature	1.41	
Min constraints per feature	1	
Max constraints per feature	7	
Attributes	**4**	
Features with attributes	526	(71%)
Min attributes per feature	0	
Max attributes per feature	2	
Avg attributes per feature	0.73	
Avg attributes per feature w. attributes	1.03	

Satisfiable (valid)	**Yes**	
Core features	**27**	**(4%)**
False-optional features	14	(2%)
Dead features	**207**	**(28%)**
Variant features	**504**	**(68%)**
Unique features	0	(0%)
Pure optional features	79	(11%)
Configurations	**5.73e77**	
Total variability	**3.97e-143%**	
Partial variability	**1.10e-72%**	
Homogeneity	**43.29%**	
Configuration distribution		
Mean	319	
Standard deviation	10.06	
Median	320	
Median absolute deviation	0	
Mode	9	
Min	9	
Max	484	
Range	475	