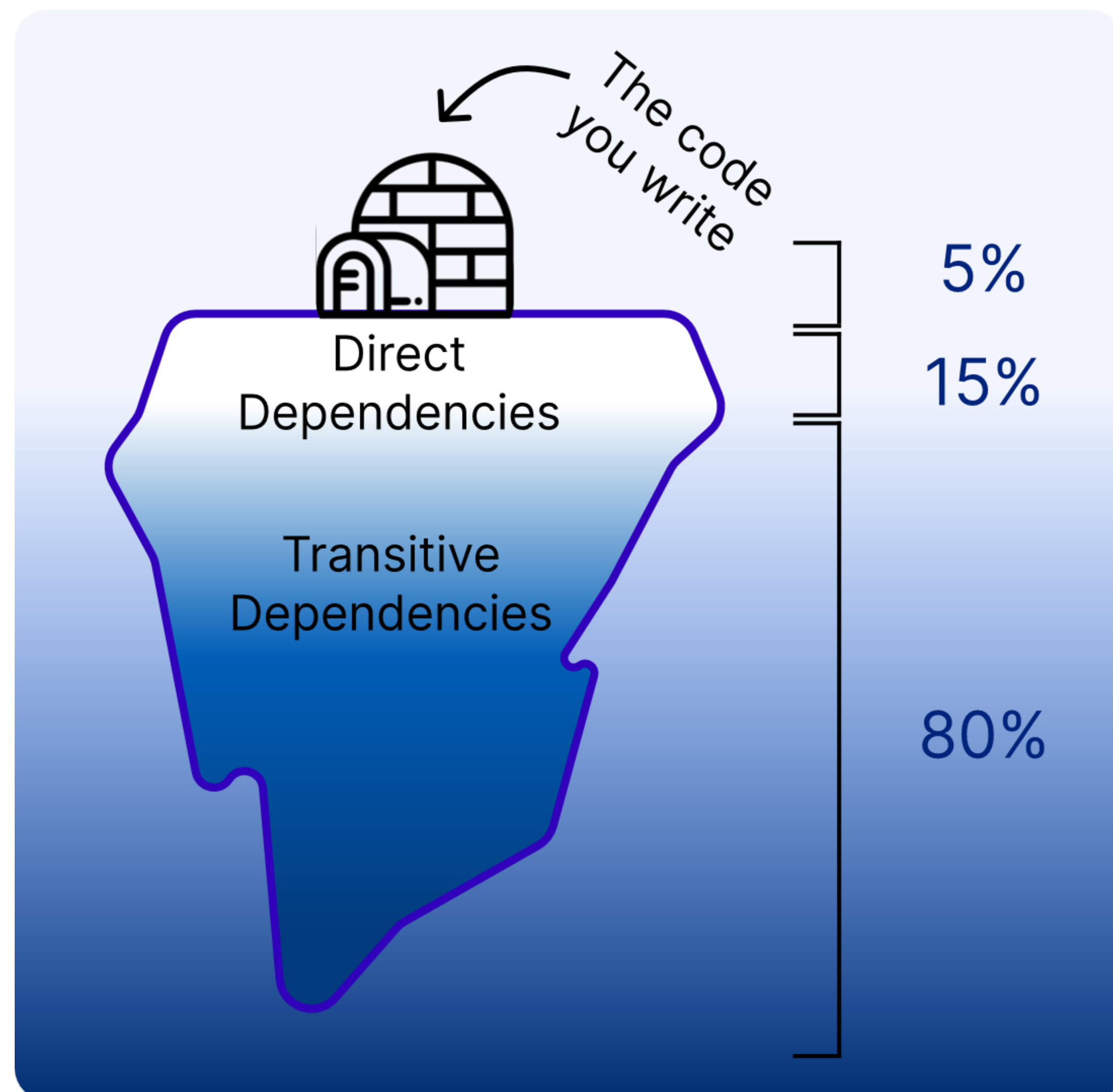


Software Bill of Materials: Ingredients of your Software

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Your application is a composition of in-house code and third-party components (commercial or open source).

- You developed 5% of the code
- You use 15% non inhouse code
- *You are not aware of the 80% left*

⚠ Large parts of your software are out of your control!

Consequences

- Liability for failures
SolarWinds: <https://rb.gy/azc00>
- Non sustainable
LeftPad: <https://rb.gy/ggoua>
- More attack surface
Coop: <https://rb.gy/r5qoa>
- Licensing & Export Regulation
Akka: <https://rb.gy/28a1m>

Software Bill of Materials



INGREDIENTS: SUGAR, VEGETABLE OIL, HAZELNUTS (13%), SKIM MILK POWDER (8.7%), FAT-REDUCED COCOA POWDER (7.4%), EMULSIFIER (SOY LECITHIN), FLAVOURING (VANILLIN). CONTAINS HAZELNUTS, MILK, SOY. TOTAL MILK SOLIDS: 8.7% TOTAL COCOA SOLIDS: 7.4%



299 Dependencies!

```
1 {
2   "bomFormat" : "CycloneDX",
3   "specVersion" : "1.4",
4   "metadata" : {
5     "timestamp" : "2023-02-26T01:58:47Z",
6     "tools" : [ {
7       "name" : "CycloneDX Maven plugin",
8       "version" : "2.7.5" }
9     ],
10    "component" : {
11      "group" : "org.jenkins-ci.main",
12      "name" : "jenkins-parent",
13      "version" : "2.384",
14      "licenses" : [ ... ],
15      "externalReferences" : [ {
16        "url" : "https://github.com/jenkinsci/jenkins"
17      } ],
18      "bom-ref" :
19        "pkg:maven/org.jenkins-ci.main/jenkins-parent@2.384?type=pom"
20    },
21    "components" : [ {
22      "group" : "org.jenkins-ci.main",
23      "name" : "jenkins-core",
24      "version" : "2.384",
25      "bom-ref" :
26        "pkg:maven/org.jenkins-ci.main/jenkins-core@2.384?type=jar"
27    },
28    "dependencies" : [ {
29      "ref" :
30        "pkg:maven/org.jenkins-ci.main/jenkins-core@2.384?type=jar",
31      "dependsOn" : [
32        "pkg:maven/com.google.guava/guava@31.1-jre?type=jar"
33      ]
34    } ]
35  }
```

I was produced at Build :D

You must know what is inside your software to protect it from the outside world!



1. Balliu, Musard, et al. "Challenges of Producing Software Bill Of Materials for Java"
2. NTIA "Executive Order on Improving the Nation's Cybersecurity" | The White House
3. State of Open Source security 2022 | Snyk