Results of Postmortem Analysis

At Google, we have a standard postmortem template that allows us to consistently capture the incident root cause and trigger, which enables trend analysis. We use this trend analysis to help us target improvements that address systemic root-cause types, such as faulty software interface design or immature change deployment planning. Table C-1 shows the breakdown of our top eight triggers for outages, based on a sample of thousands of postmortems over the last seven years.

Table C-1. Top eight outage triggers, 2010–2017

Binary push	37%
Configuration push	31%
User behavior change	9%
Processing pipeline	6%
Service provider change	5%
Performance decay	5%

Capacity management	5%
Hardware	2%

Table C-2 presents the top five contributing root-cause categories.

Table C-2. Top five root-cause categories for outages

Software	41.35%
Development process failure	20.23%
Complex system behaviors	16.90%
Deployment planning	6.74%
Network failure	2.75%