

- $C_{CPU-F}$ , in the case of cpu failure,
- $C_{CPU-R}$ , in the case of cpu repair,
- $C_{VOTER-F}$ , in the case of cpu failure,
- $C_{VOTER-R}$ , in the case of cpu repair.

The diagram illustrates the state transitions for a 2-cpu 1-vot system. The states and their transitions are as follows:

- 3 cpu 1 vot** (top left) transitions to **2 cpu 1 vot** (top middle) with rate  $3\lambda$  and to **3 cpu Fault (safe)** (bottom left) with rate  $\lambda_{\text{VOT}} C_{\text{VOT-F}}$ .
- 2 cpu 1 vot** (top middle) transitions to **1 cpu 1 vot (safe)** (top right) with rate  $2\mu C_{\text{CPU-R}}(1-C_{\text{CPU-R}})$  and to **unsafe** (bottom middle) with rate  $2\lambda_{\text{CPU}}(1-C_{\text{CPU-F}}) + \lambda_{\text{VOT}}(1-C_{\text{VOT-F}})$ .
- 1 cpu 1 vot (safe)** (top right) transitions to **2 cpu 1 vot** (top middle) with rate  $\mu C_{\text{CPU-R}}$  and to **2 cpu Fault (safe)** (bottom right) with rate  $\mu (1-C_{\text{CPU-R}})^2$ .
- 3 cpu Fault (safe)** (bottom left) transitions to **unsafe** (bottom middle) with rate  $\mu (1-C_{\text{VOT-R}})$  and to **2 cpu 1 vot** (top middle) with rate  $\lambda_{\text{VOT}}(1-C_{\text{VOT-F}})$ .
- unsafe** (bottom middle) transitions to **3 cpu 1 vot** (top left) with rate  $\mu C_{\text{CPU-R}}$  and to **2 cpu Fault (safe)** (bottom right) with rate  $\mu (1-C_{\text{VOT-R}})$ .
- 2 cpu Fault (safe)** (bottom right) transitions to **unsafe** (bottom middle) with rate  $\mu C_{\text{VOT-R}}$  and to **2 cpu 1 vot** (top middle) with rate  $\lambda_{\text{VOT}} C_{\text{VOT-F}}$ .