

SWIM Failure Detector

Parameter	SWIM
First Detection Time	<ul style="list-style-type: none">• Expected $\left[\frac{e}{e-1} \right]$ periods• Constant (independent of group size)
Process Load	<ul style="list-style-type: none">• Constant per period• $< 8 L^*$ for 15% loss
False Positive Rate	<ul style="list-style-type: none">• Tunable (via K)• Falls exponentially as load is scaled
Completeness	<ul style="list-style-type: none">• Deterministic time-bounded• Within $O(\log(N))$ periods w.h.p.