Scaling Up PVSS

CERN tests successful

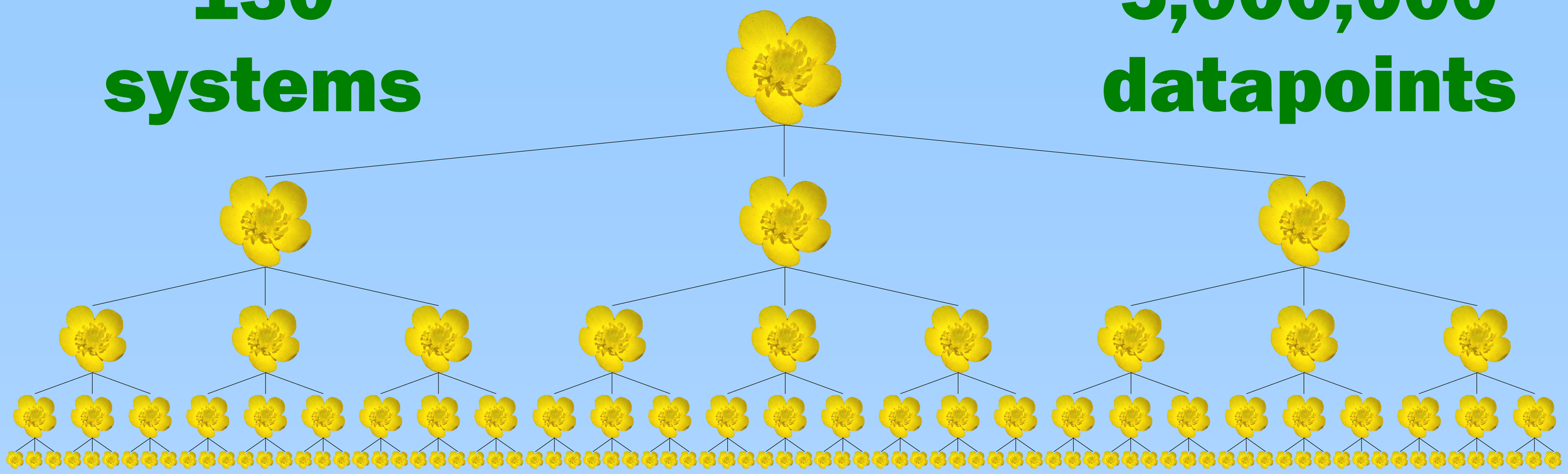
Really big SCADA systems proved to work

PVSS demonstrates impressive connectivity, resilience against external disturbance and an excellent ability to manage overload situations

How big?

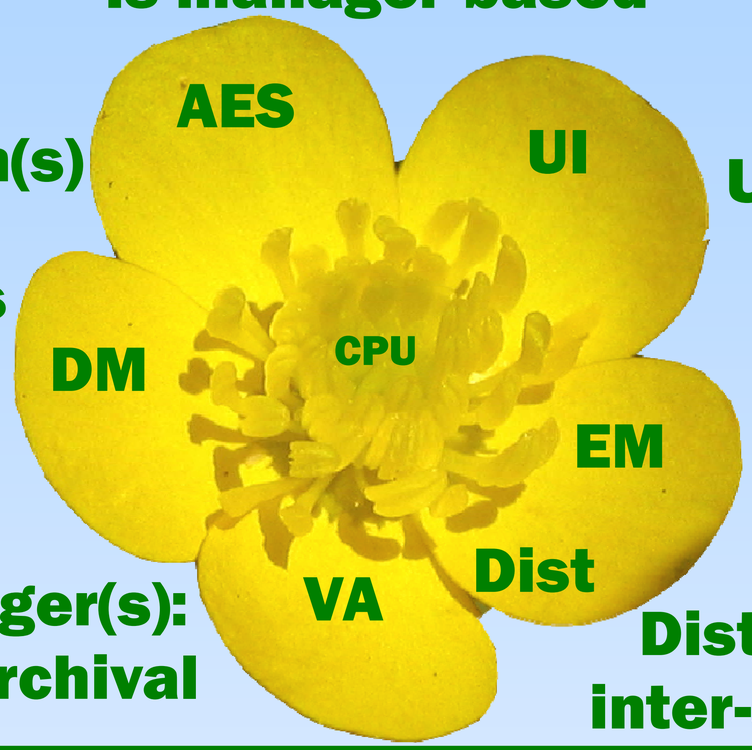
130 systems

5,000,000 datapoints



System Architecture

is manager-based



Alert/Event Screen(s)

User Interface Manager(s)

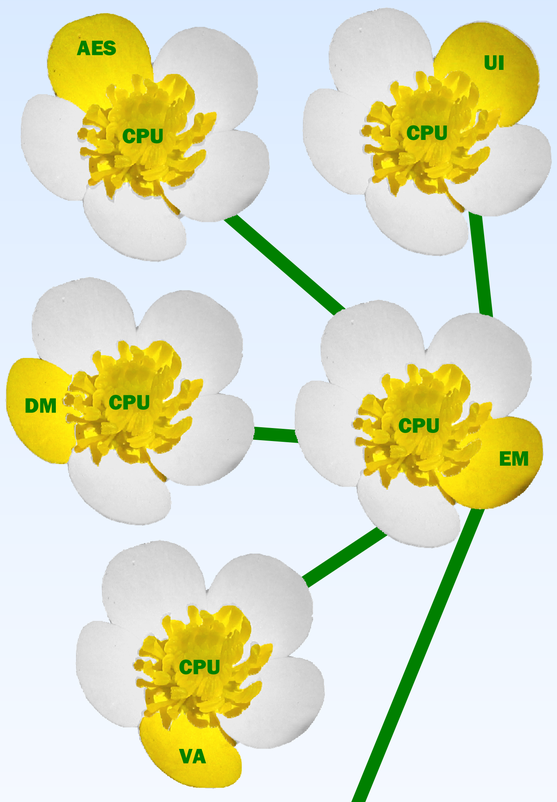
Data Manager: records definitions, alerts, latest values

Event Manager: responds to events, checks for and raises alarms

Value Archive Manager(s): for long-term data archival

Distribution Manager: for inter-system communication

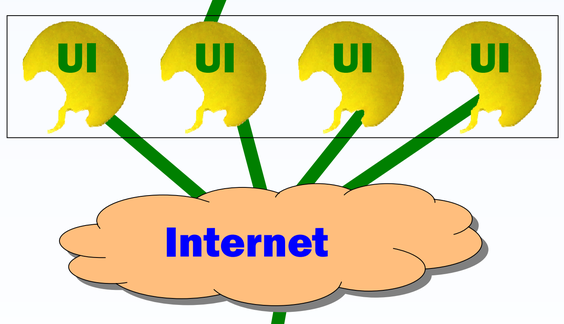
A Scattered System



... one system with managers scattered across several computers

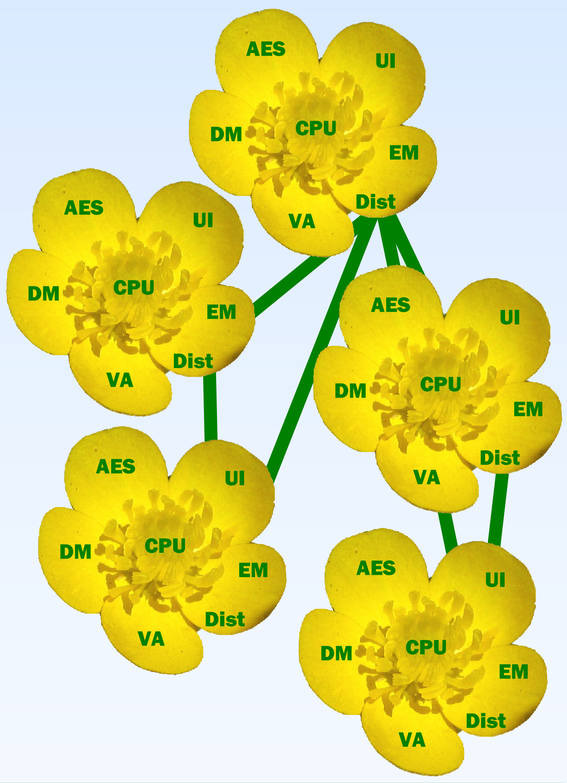
Scattered EM: +75% improvement
Scattered DM: +50% improvement

Remote Access via Terminal Server

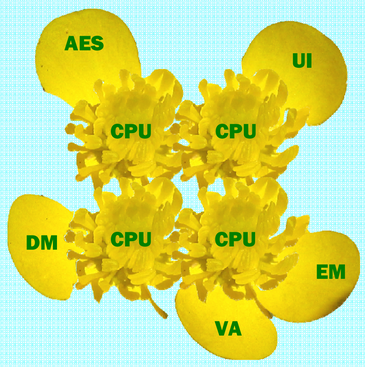


A Distributed System "Cluster"

... a collection of many independent systems working together as a unified whole



Multi-CPU machine



... a single system where managers are executed with real concurrency: +50% improvement

Emergent Behaviour

An overloaded EM protects itself by load-shedding.

PVSS' self healing mechanism restarts failed managers.

PVSS must be tuned.

Queuing model