

Quality Attribute & Tactics

**Dette dokumentet er en oversikt over
alle QA og tilhørende tactics**

Availability

- Availability refers to a property of software that is there and ready to carry out its tasks when you need it to be.

- Faults!

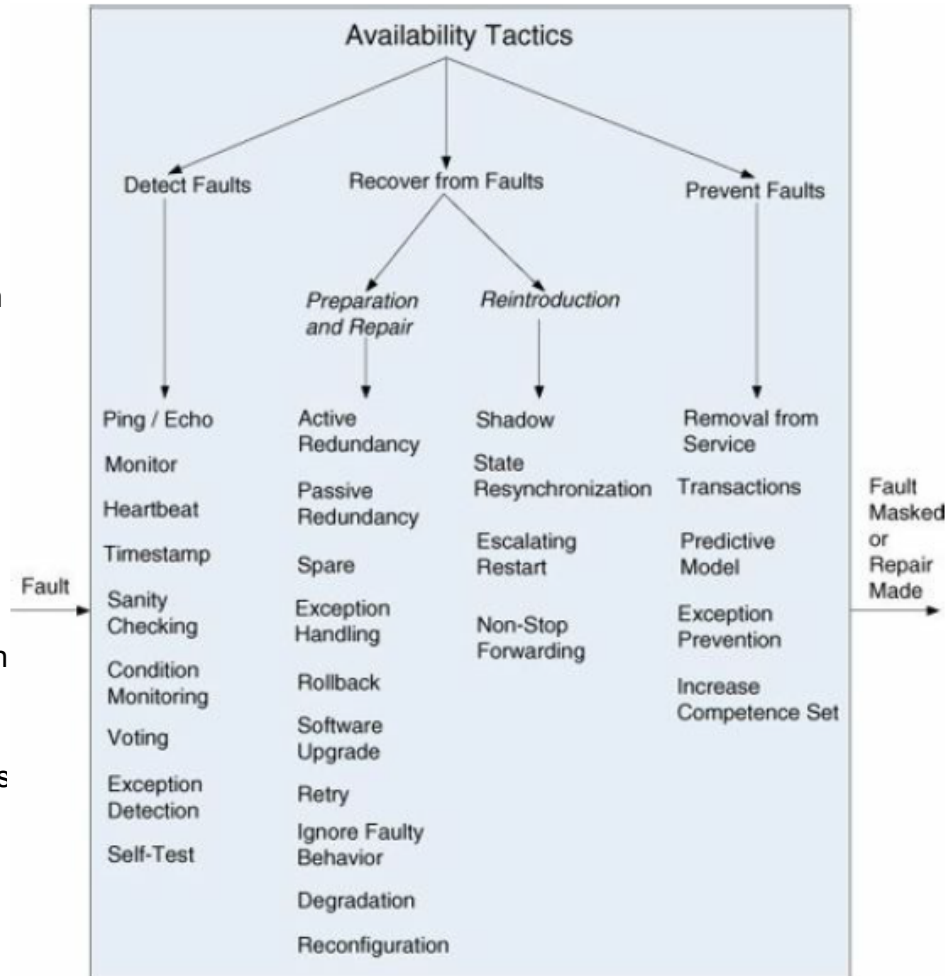
- Detect faults:

- **Ping/echo** → er systemet i live?
- **Monitor** → overvåke hardware
- **Heartbeat** → periodic message exchange between a monitor and a process being monitored
- **Watchdog**
- **Replication** → clone components
- **Exception detection**
- **Self-test**

- Recover from faults

- Rollback → rulle tilbake til en konsistent tilstand
- Retry → maybe a retry of operation will lead to success

- Prevent Faults



Interoperability

- **Interoperability** is about the degree to which two or more systems can usefully exchange meaningful information via interfaces in a particular context

- Information exchange request → tactic → request correctly handled

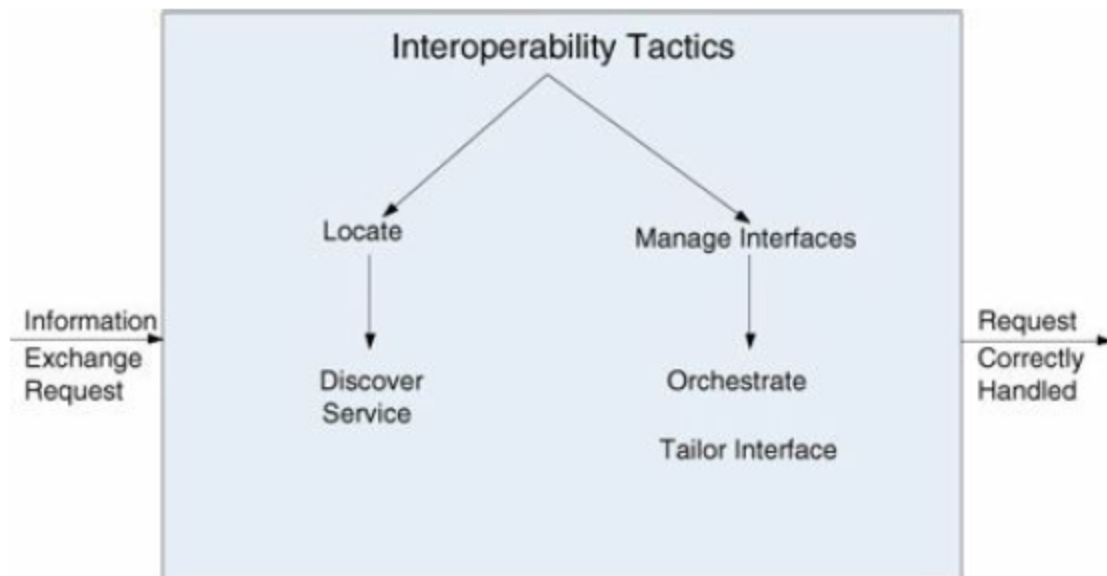
- **REST**(Client-server, small set of operations) and **SOAP** (XML-based, relies on HTTP)

- Locate

- Discover service:

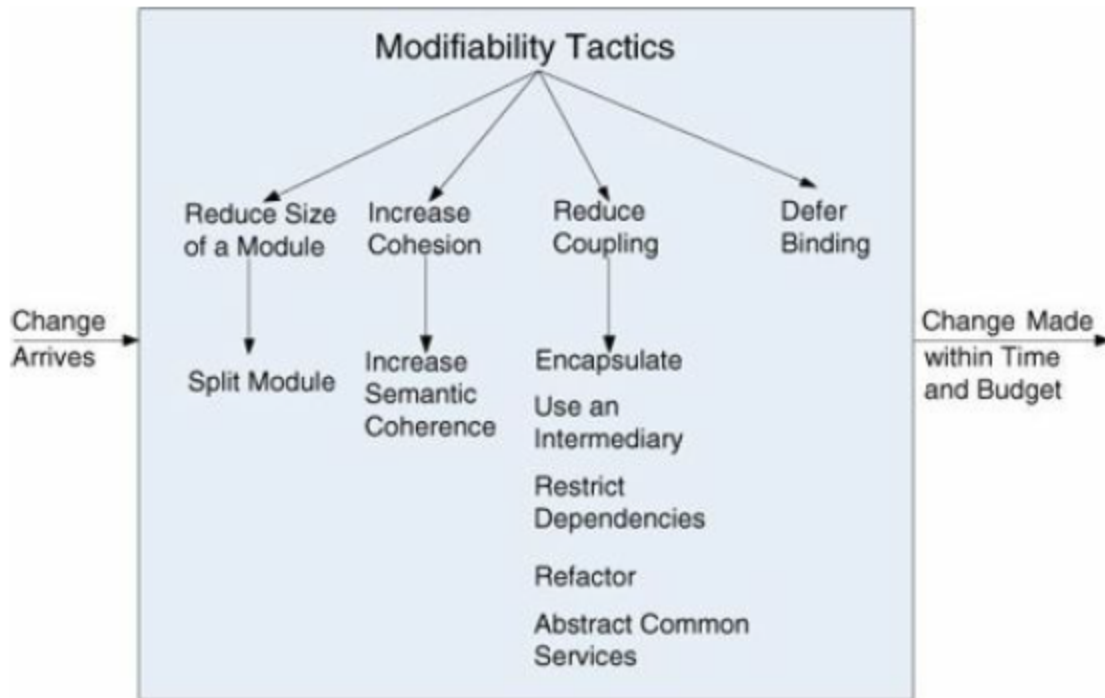
- Manage interfaces:

- Orchestrate
- Tailor interface



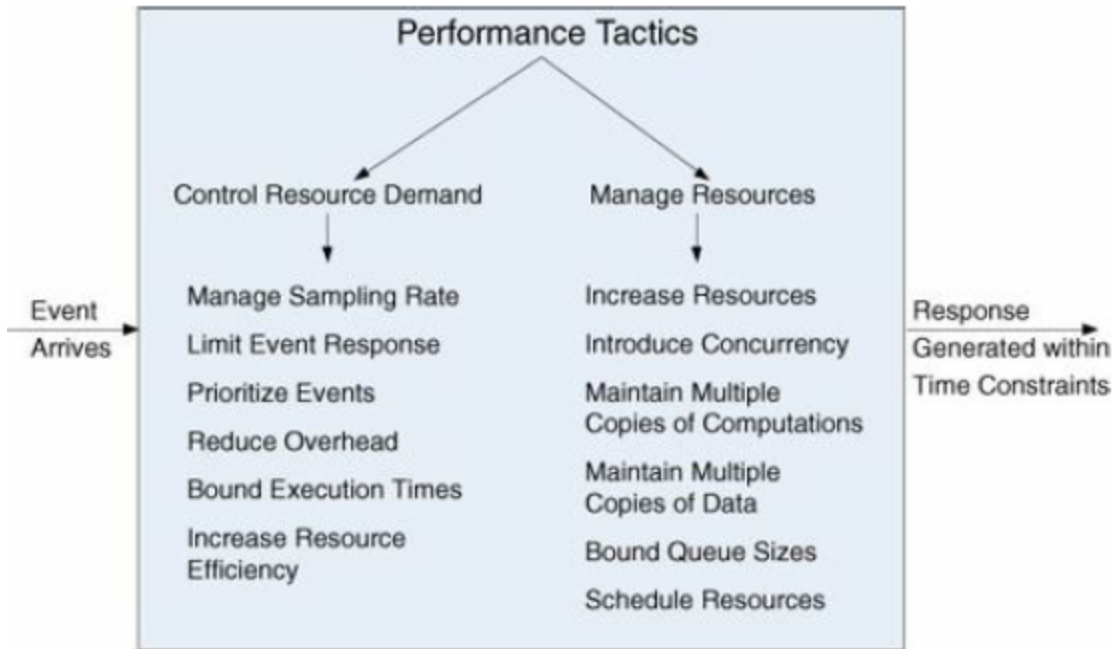
Modifiability

- Modifiability deals with change and the cost in time or money of making a change.
- Reduce the size of module
 - Split module
- Increase cohesion
 - Increase semantic cohesion
- Reduce coupling
- Defer binding:



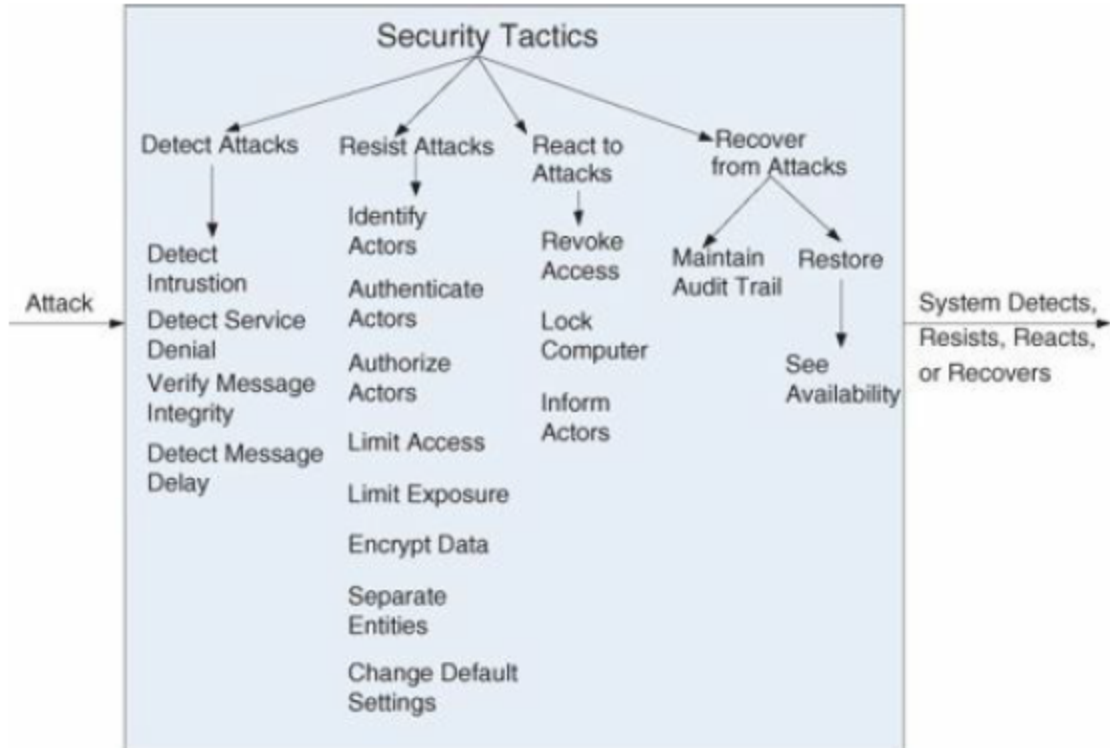
Performance

- The goal of performance is to generate a response to an arriving event within some time-based constraint
- Event arrives!
- Manage resources, scheduling, replication, increasing available resources
- **Control resource demand**
- **Manage resources**



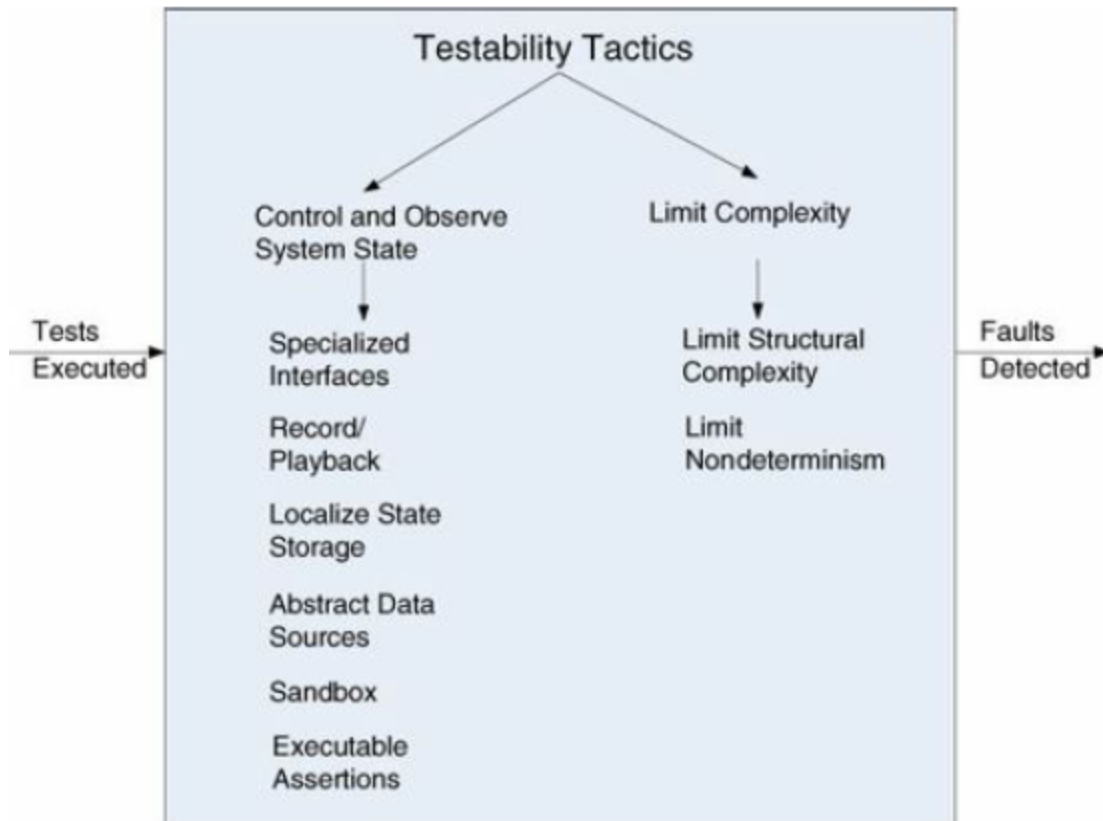
Security

- Attack occur!
- **Detect attack**
- **Resist attack**
- **React to attacks**
- **Recover form attacks**



Testability

- Test executed → faults detected
- **Control and observe system state**
- **Limit complexity**



Usability

- User request → user given appropriate feedback and assistance

