Challenges in End-to-End Automation of IT processes

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myself

- Current role service architect

- Formerly SAP basis admin, team lead

- Working for a large IT systemhouse

- Large SAP Systems, lots of users

- Volatile environment

- Security

Agenda

- Motivation

- IT processes?

- Challenges

- Solutions?

- Impediments

- Wrap-Up

Motivation

- IT systems are getting more complex

- Less people, more work, required to get faster

- Large organizations → Taylorism divides work in small tasks

- Each switch to another (manual) agent takes roughly a day
  Even for a 10 minute task…

- Workflow optimized for execution time, throughput, or utilization?

IT processes?

Let's look at Changes:

- Request for Change creation

- Change organization/planning/approval

- Do the (technical) thing

- Close change, document work

- Get the information back to the requester

IT processes? (2)

- Simple technical changes are a solved problem:
  we have SALT, ansible, and similar tools

- Integration into ITSM processes seems the next challenge (for us)
  Can we reduce these processes?

- Changes to CMDB, admin tools (DNS, IP Management,…)

- Integrated processes along the core value chain through the organization

- How to measure complexity of IT processes?
  - Number of steps, agents, processing time, work needed
  - Size of data to (re-)enter
  - „How many forms to fill for server installation?"

Challenges

- Get cooperation from all parties (seeds, use opportunities)

- Get the needed information to the agent

- Get the request with structured data that can be reused

- Aka Service Request (process: start, defined input, predefined steps, end, reproducible outcome)

- (directly) use the request data in automation (needs verify)

- Update documentation (e.g. CMDB)

- ITIL change for documentation – really needed?

Solutions?

- Make (manual) tasks and processes vanish:
  create a change to automate a task away instead of "everytime we need to do X, create and manage a change"

- Exposure of APIs and using them instead of manual processes (contract between provider and consumer)

- Desired state: make it idempotent

- GitOps instead of ExcelOps – needs re-thinking and tooling

Impediments

- Institutional inertia (this is now changing for us)

- Excel as a first thought (use the "right" hammer^Wtool)

- Time to rethink the whole process (as seen from the requester)

- Manual data entry (possibly in Excel...)

- Duplicate data entry

Wrap Up

- Technical automation is mostly solved

- Remove manual processes

- Make existing data usable for automation

- Use existing data instead of manual re-entry

- Get all needed information first, then execute

- Fail fast. Fail safe?

"Eliminate, Optimize, Automate"

Questions and remarks?