Dear Dr. Perigo

As automation is getting popular in network industry to manage large-scale infrastructure efficiently, with minimal input from system administrators, we should be more open to see all options in market. All configuration tools are designed to reduce the complexity of configurating distributed infrastructure resources, and ensure reliability and compliance. However, there are four automation tools I would like to discuss with you.

1. **Puppet**: This configuration management solution is built with Ruby, and offers a declarative paradigm programming approach. It uses an agent/master architecture – agents manage nodes and request relevant info from masters that control configuration information. Essentially, it polls status reports and queries from the master server over HTTPS. [1]
2. **Chef**: It is an internal end-to-end tool and it uses a server – client architecture and offers configuration in a Ruby DSL using the imperative programming paradigm. This solution allows users to install apps to bare metal VMs and cloud containers in its flexible cloud infrastructure automation framework. It is pretty similar to Puppet except that an additional login Chef workstation is required to control configurations from the master to agents, and agents poll the information from master servers that respond via SSH. [2]
3. **SaltStack**: This software platform is built with Python and uses the push model for executing commands through SSH protocol. It allows parallel execution of multiple commands encrypted via AES and provides both vertical and horizontal scaling. Besides, the platform supports both master-agent and decentralized, non-master models. [1]
4. **Ansible**: Ansible was developed to simplify complicated orchestration and configuration management tasks. It is writing in Python and offers users to script commands in Yaml as an imperative programming paradigm. This software does not need agents on every system, and modules can reside on any server. A centralized Ansible workstation is often used to tunnel commands through multiple host servers and access machines in a private network. [2]

References:

1. <https://www.infoworld.com/article/2609482/data-center-review-puppet-vs-chef-vs-ansible-vs-salt.html>
2. https://rootleveltech.com/ansible-puppet-chef-salt-what-should-i-use/