






## Chef, Puppet, Ansible, NetCONF, RestConf one pager

| About   | Southbound interface  | Provisioning language  | Pros   | Cons   | Other                   |
|---|---|--|--|--|-------------------------|
|  <p>Open-Source tool to install and provision remote servers and switches in a repeated fashion</p>  | SSH   | YML  | <ul style="list-style-type: none"> <li>Does not require an agent on the managed device</li> <li>Easy to learn YML</li> <li>Repository of sample playbooks on git</li> <li>Variable structure to pass parameters</li> </ul> | <ul style="list-style-type: none"> <li>At times hard to debug failures</li> <li>Refer to documentation needed since open-source changes</li> </ul>   |                         |
|  <p>Open-Source configuration management tool, focused on developer or DevOps</p>  | ip and SSH with knife   | Ruby   | <ul style="list-style-type: none"> <li>Rich collection of "recopies"</li> <li>Strong version control on Git</li> <li>Programmatic control and flexibility</li> </ul>   | <ul style="list-style-type: none"> <li>Requires an agent on the device being managed</li> <li>Steep learning curve, if you are not familiar with Ruby</li> <li>May need large code bases and complicated Env.</li> </ul>         |                         |
|  <p>Oldest standard for configuration management. Open-source tool</p>   |   | Ruby (Domain Scripting Language (DSL)) which is close to JSON    | <ul style="list-style-type: none"> <li>Mature and well established</li> <li>Simple install and setup</li> <li>Complete Web UI</li> <li>Strong reporting</li> </ul>   | <ul style="list-style-type: none"> <li>Requires an agent on the device being managed</li> <li>Ruby/DSL based with higher learning curve</li> <li>Code can grow large due to DSL</li> <li>Model Drive and less control</li> </ul> |                         |
|  <p>Easy way to manage a device that supports REST and YANG defined data. Commands are over HTTP transport, either from a browser or curl</p>  | http or https   | html i.e.:<br>GET<br>http://192.168.3.20:8080/open/v1/system1213 | <ul style="list-style-type: none"> <li>Easy to program</li> <li>Mature interface to exchange information</li> <li>Return values are XML formatted and easy to read and parse</li> </ul>                                    | <ul style="list-style-type: none"> <li>Requires exposure of API on the device</li> <li>Often partial API availability</li> </ul>   | <a href="#">YouTube</a> |
|  <p>NetCONF was originally intended Install, manipulate, and delete the configuration of network devices, hence the name NetCONF. It is intended to exchange YANG data model encoded in XML or JSON.</p> | Multiple: SSH, Simple Object Access (SOAP), or Transport Layer Security (TLS) | XML or JSON formatted Yang value set                             | <ul style="list-style-type: none"> <li>Open Standard and somewhat well defined</li> <li>Consistent across multiple devices</li> <li>No CLI dependence</li> </ul>   | <ul style="list-style-type: none"> <li>Data model different from device to device</li> <li>Require a management box and not easy to assemble formatted data models to pass back and forth</li> </ul>                             |                         |