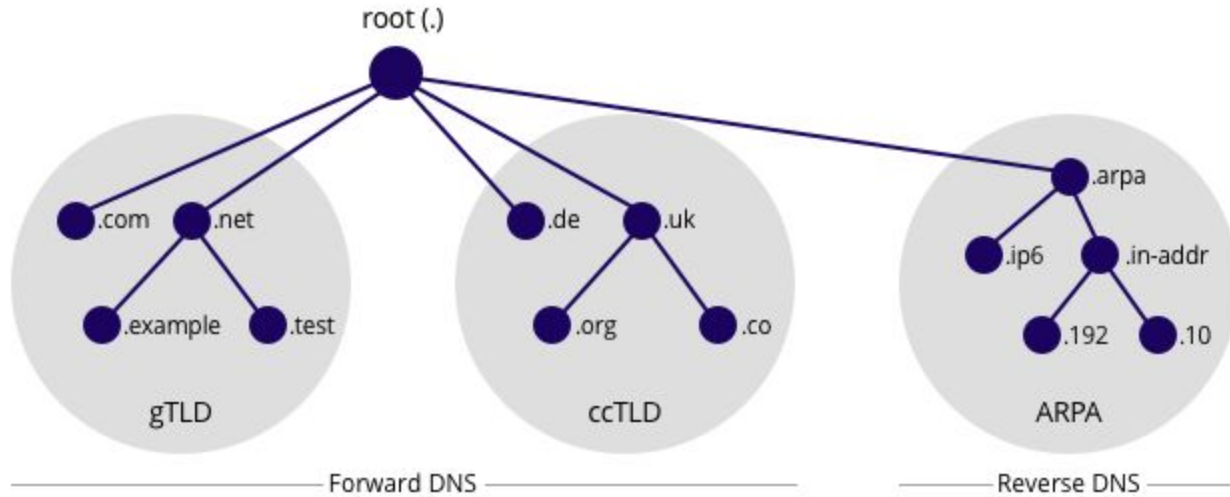


IT Infrastructure services

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2019

Everything should die!

DNS



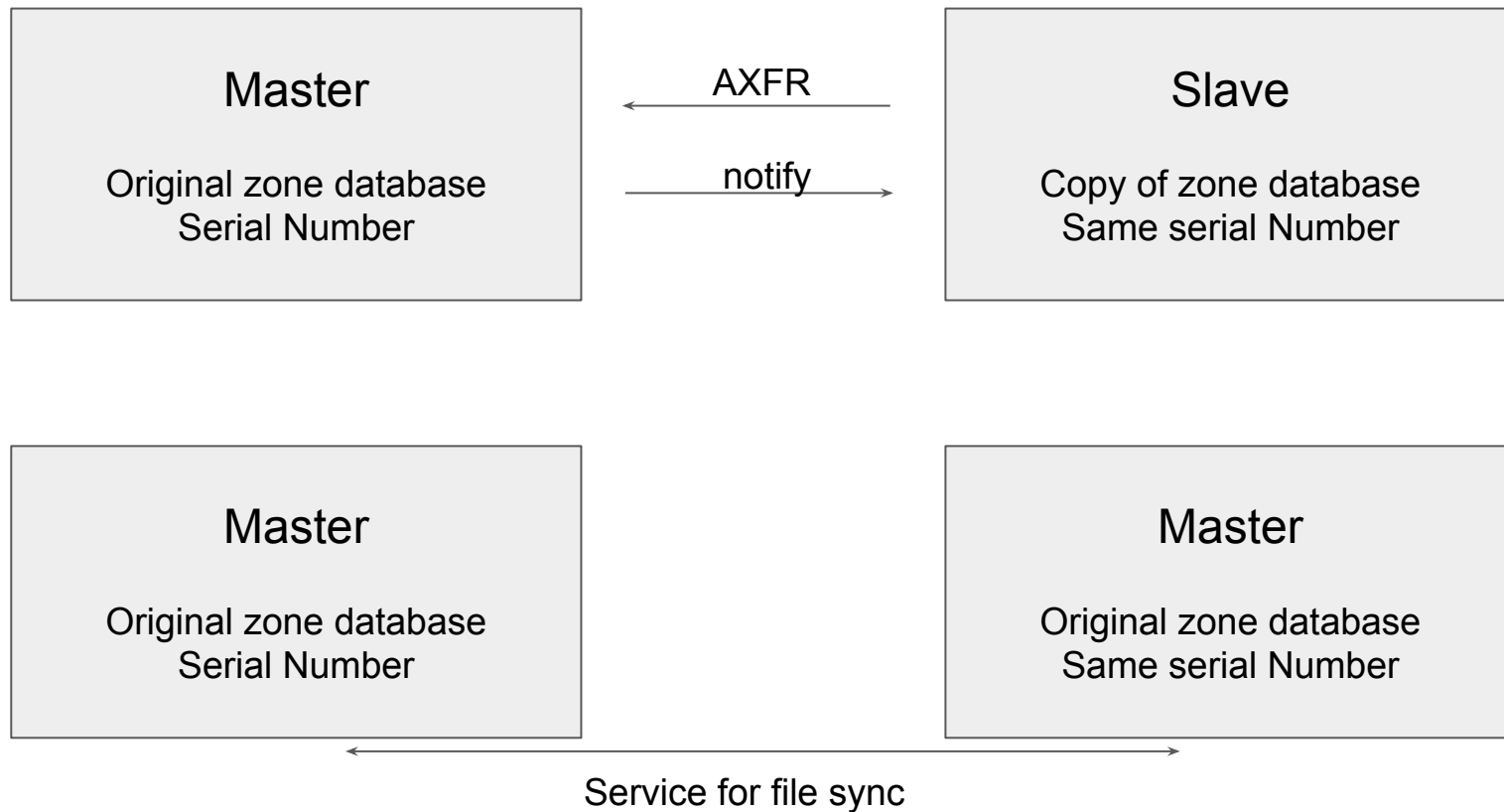
DNS record types

- A
- AAAA
- CNAME
- NS
- SOA
- MX
- TXT
- Many more: https://en.wikipedia.org/wiki/List_of_DNS_record_types

DNS troubleshooting

- <https://isitdns.com/>
- nslookup
- host <ip or name>
- dig

HA setups



Bind9

Docs: <https://kb.isc.org/docs/aa-01031>

Configs: /etc/bind/

Files: /var/lib/bind



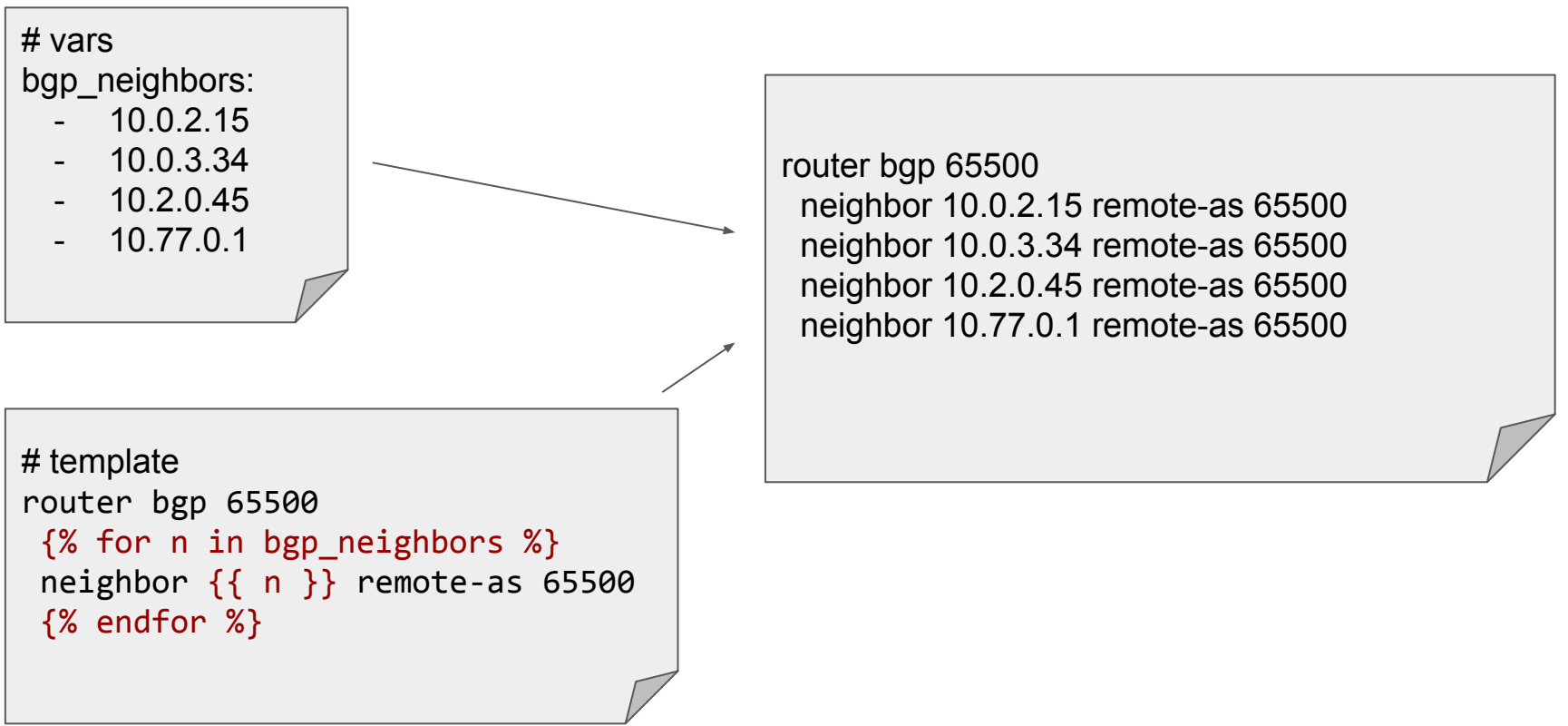
Ansible handlers

A task that is triggered by another task

```
tasks:
  - name: template configuration file
    template:
      src: template.j2
      dest: /etc/foo.conf
      notify:
        - restart memcached
        - restart apache
handlers:
  - name: restart memcached
    service:
      name: memcached
      state: restarted
  - name: restart apache
    service:
      name: apache
      state: restarted
```


Jinja2 loops

```
# vars
bgp_neighbors:
- 10.0.2.15
- 10.0.3.34
- 10.2.0.45
- 10.77.0.1
```

A diagram illustrating Jinja2 loop expansion. It consists of three light gray boxes with folded corners. The top-left box contains a list of IP addresses under the variable 'bgp_neighbors'. The bottom-left box contains a Jinja2 template for configuring BGP neighbors, with the loop syntax highlighted in red. Two arrows originate from the top-right of the bottom-left box: one points diagonally up and to the right towards the top-right box, and the other points diagonally up and to the right towards the right side of the top-left box.

```
# template
router bgp 65500
{% for n in bgp_neighbors %}
neighbor {{ n }} remote-as 65500
{% endfor %}
```

```
router bgp 65500
neighbor 10.0.2.15 remote-as 65500
neighbor 10.0.3.34 remote-as 65500
neighbor 10.2.0.45 remote-as 65500
neighbor 10.77.0.1 remote-as 65500
```

Jinja2 conditions

```
# vars_R1
bgp_neighbors:
  - 10.0.2.15
  - 10.0.3.34
  - 10.2.0.45
  - 10.77.0.1
```

```
# vars_R2
ospf_area: 0
```

```
# template
{% if bgp_neighbors %}
router bgp 65500
  {% for n in bgp_neighbors %}
  neighbor {{ n }} remote-as 65500
  {% endfor %}
{% endif %}
```

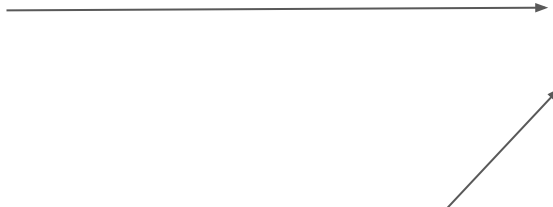
R1:

```
router bgp 65500
  neighbor 10.0.2.15 remote-as 65500
  neighbor 10.0.3.34 remote-as 65500
  neighbor 10.2.0.45 remote-as 65500
  neighbor 10.77.0.1 remote-as 65500
```

R2:

Jinja2 filters

```
# vars_R1
bgp_neighbors:
  - ip: 10.0.2.15
    as: 65501
  - ip: 10.0.3.34
    as: 65502
  - ip: 10.2.0.45
  - ip: 10.77.0.1
```



```
R1:
router bgp 65500
  neighbor 10.0.2.15 remote-as 65501
  neighbor 10.0.3.34 remote-as 65502
  neighbor 10.2.0.45 remote-as 65500
  neighbor 10.77.0.1 remote-as 65500
```

```
# template
{% if bgp_neighbors %}
router bgp 65500
  {% for n in bgp_neighbors %}
  neighbor {{ n.ip }} remote-as {{ n.as | default(65500) }}
  {% endfor %}
{% endif %}
```

Jinja2 example

```
{%- if aggregations %}
port-channel load-balance src-dst-ip
  {{ empty_line() }}
  {%- for portchannel in aggregations %}
interface Port-channel{{ portchannel.name | replace('Po','') }}
  switchport mode trunk
    {% if '*' in portchannel.vlans -%}
      {%- for vl in portchannel.vlans.split(',') -%}
        {%- if '*' in vl -%}
switchport trunk native vlan {{ vl | replace('*', '') }}
          {% endif %}
        {%- endfor -%}
      {% else -%}
switchport trunk native vlan 999
          {% endif -%}
      switchport trunk allowed vlan {{ portchannel.vlans | replace('*', ' ') | replace(',', ' ') | trim |
replace(' ', ',') }}
      switchport nonegotiate
    {%- endfor %}
  {%- endif %}
```