

Discovery Script

where no script has gone before...



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Mikrotik trainer



== Programmable Network





dynamically encrypted password
smart.network/mum



Goal

Develop compelling solutions on the RouterOS platform



What is the problem?

There are two choices to develop a solution that runs on top of a Router



Lock the router to your solutions configuration and force your customers to buy your router or comply.

OR

Develop your solution to run over the top of ANY configuration



deploying a solution in an unknown territory

allows:

- discovering new markets
- reaching new heights and depths
- unlimited growth potential

requires to be:

- ready for the unknown
- flexible & adjustable
- have a path to recovery



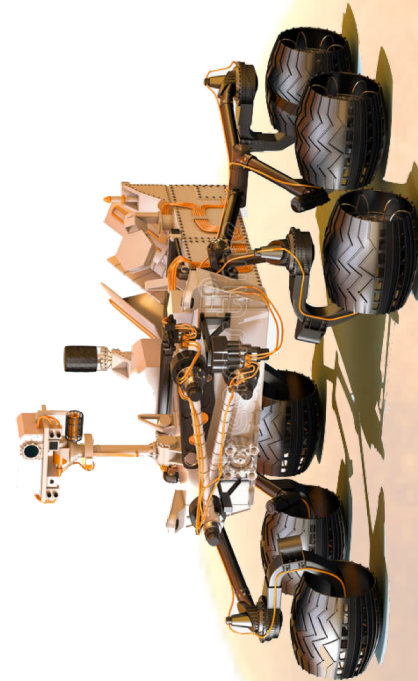
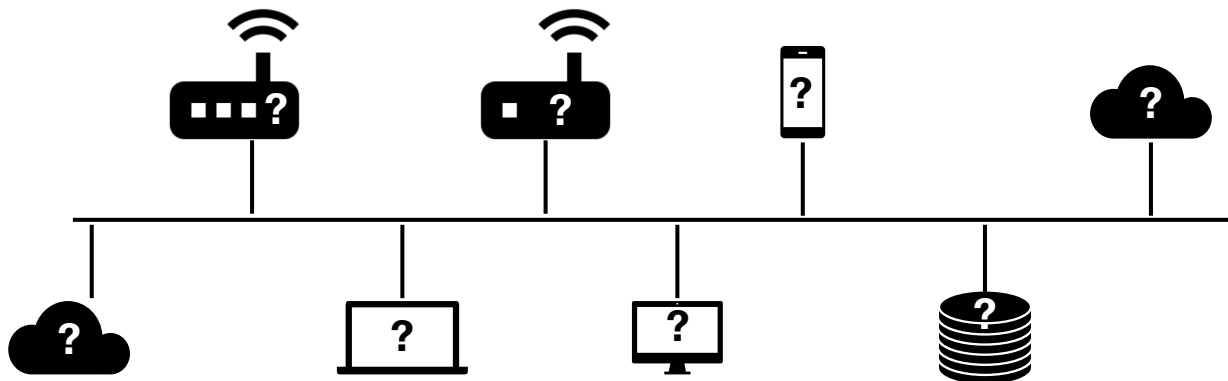
deploying a solution in an unknown network

allows:

- lower cost to entry
- rapid adoption
- detach solution from hardware

requires to:

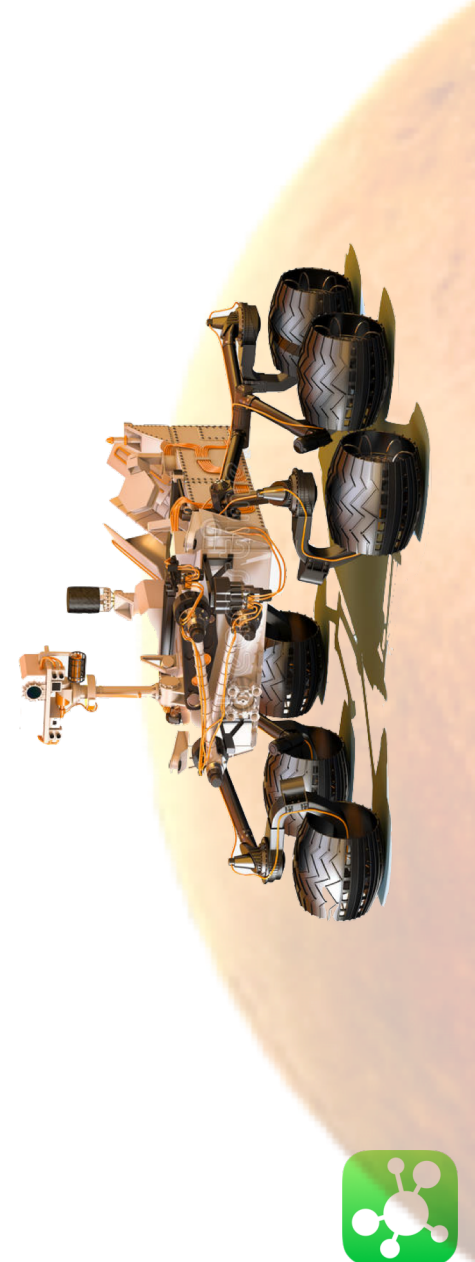
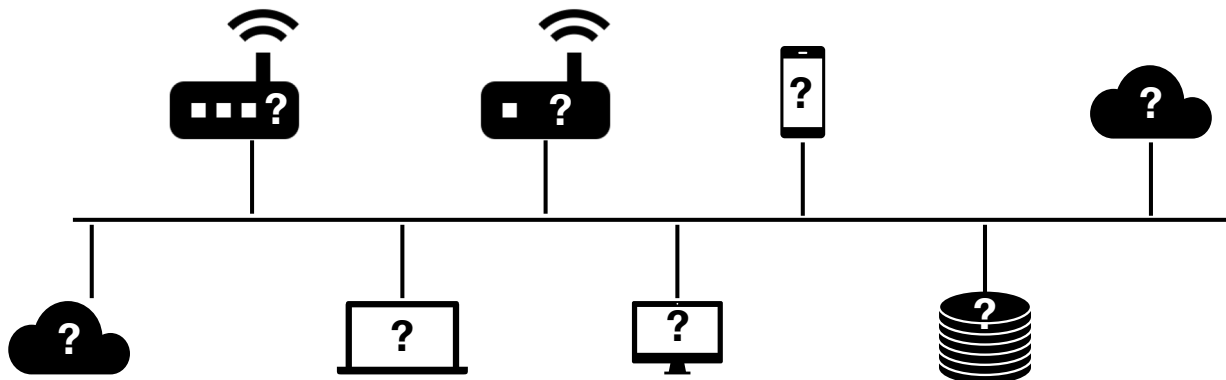
- learn and work with existing config
- be flexible & auto adjust deployment
- co-exist with other stake holders



the discovery script (aka crawler) allows:

function	goal	output
Identify interfaces	ether1 ether2 bridge1	Names & Numbers Mode: bridge/router Role: LAN/WAN
Public IP	What is my ip?	IPv4 / IPv6
Time Zone	add interval=1d start-date=apr/12/2018	UTC+offset
Subnets	192.168.1.0/24 23.24.25.26/28	IP Subnets
DHCP	add address=192.168.1.101 host-name="my iphone"	Interface & Mode Host Names Fixed reservations

or anything api or that can be scripted...



the discovery script (aka crawler)



Identify WAN interface

###WAN detection

```
:local getRoute do={
  :global trimW;
  :global gatewayName;
  ### Find the gateway interface name
  #:local gatewayStatus [/ip route get [/ip route find where dst-address="0.0.0.0/0"
and active and [:len (routing-mark)]=0] value-name=gateway-status];
  :local rt [/ip route find where dst-address="0.0.0.0/0" and active and [:len (routing-
mark)]=0];
  :local l [:len $rt];
  :log info "rt.len: $l";
  :if (l < 1) do={
    :return "ERROR: No route found";
  }
}
```



the discovery script (aka crawler)



Public IP

```
### WAN IP detection
#crawl change ?
:local wanip "unknown";
do {
    /tool fetch url="https://api.ipify.org/" mode=https
dst-path=mypublicip.txt
    :delay 2s;
    :local mypublicip [file get mypublicip.txt contents];
    :local tempint ([/ip address get value-
name=interface [find where address~$mypublicip]])
    /file remove [find where name~"mypublicip"]
    :if (tempint!=0) do {set wanip $mypublicip}
} on-error={
    :log info "error detecting wanip";
}
```



the discovery script (aka crawler)



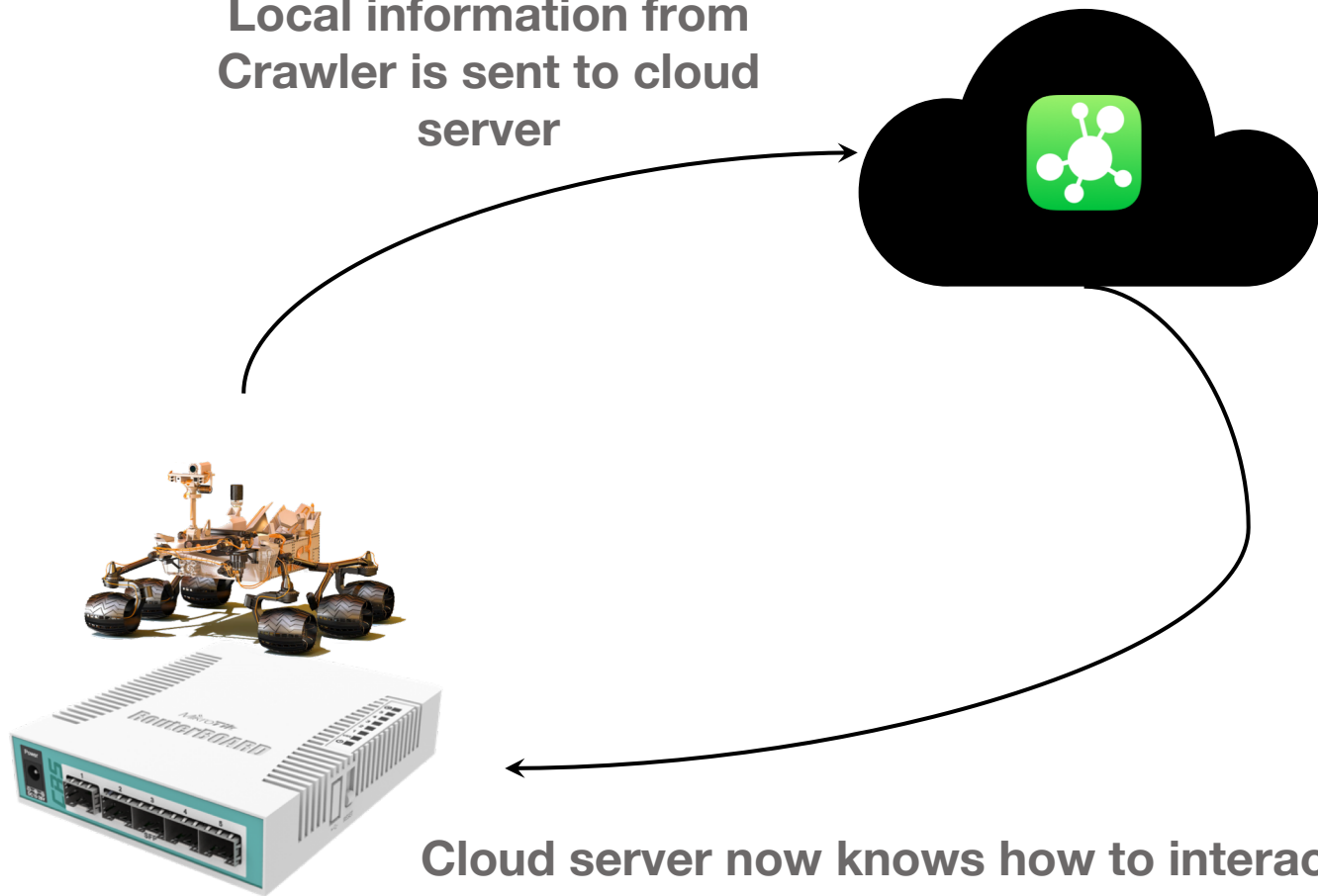
Time Zone

```
### Time zone detection
:local zone [/system clock get gmt-offset];
```



Now we know about the Router and can adapt

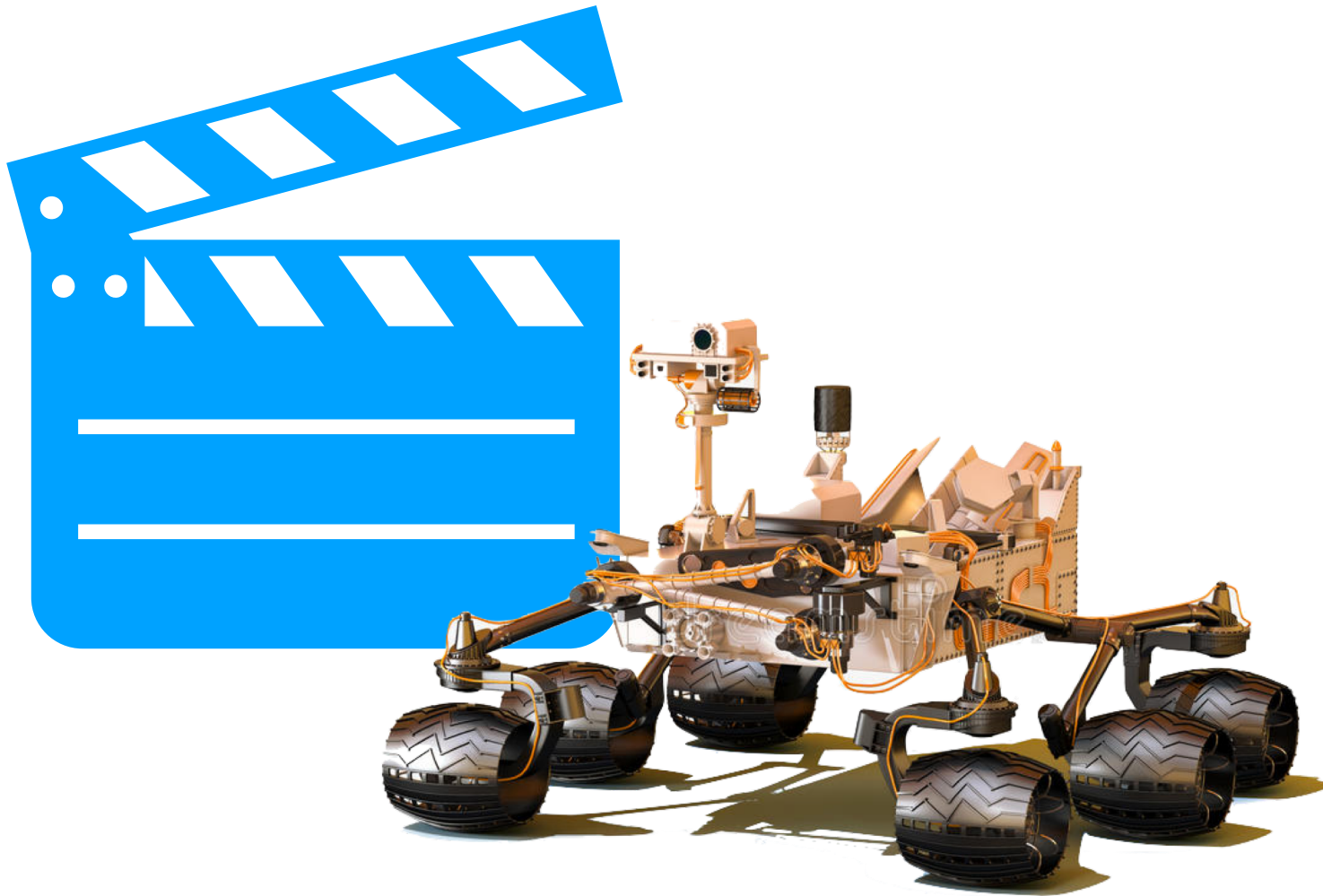
Local information from
Crawler is sent to cloud
server



Cloud server now knows how to interact with
the local network topology without breaking
anything that is already running.



the discovery script (aka crawler) in action!



the discovery script (aka crawler)

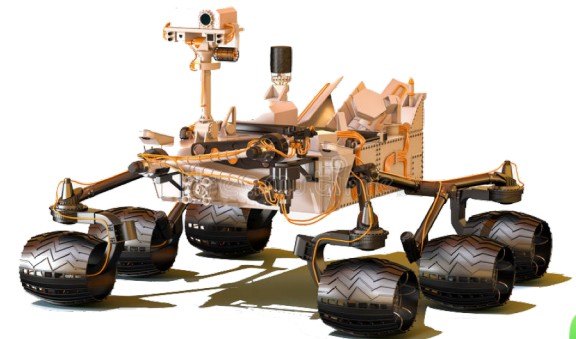
Benefits

- Deploy a solution to an existing echo system
- Adopt and adapt to the customer's network
- No need to lock out users

Learning Capabilities

- Existing configuration
- Network Topology
- Connectivity with the world
- Run it again to learn what's changed

Download at forum.smart.network



the discovery script (aka crawler)

Questions?

