Discovery Script

where no script has gone before…

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+

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== 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

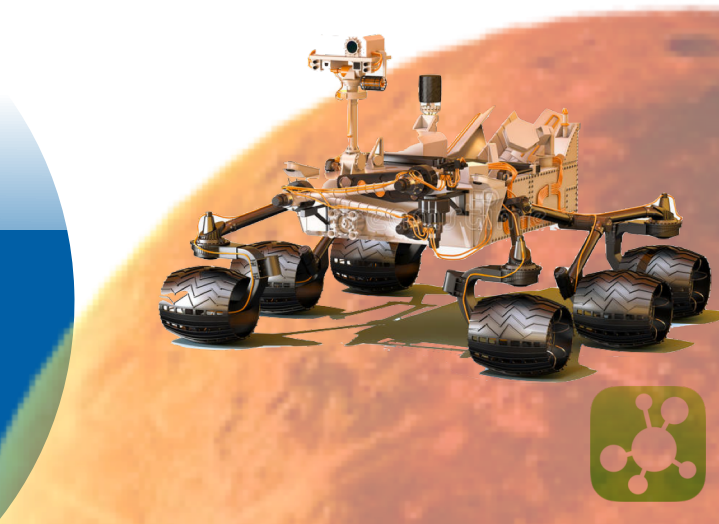Develop your solution to run over the top of ANY configuration

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
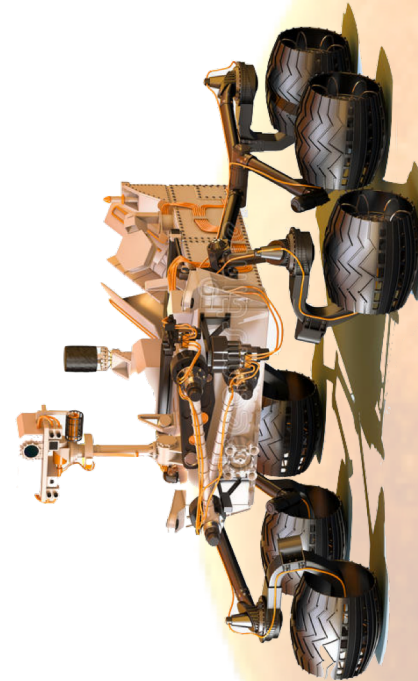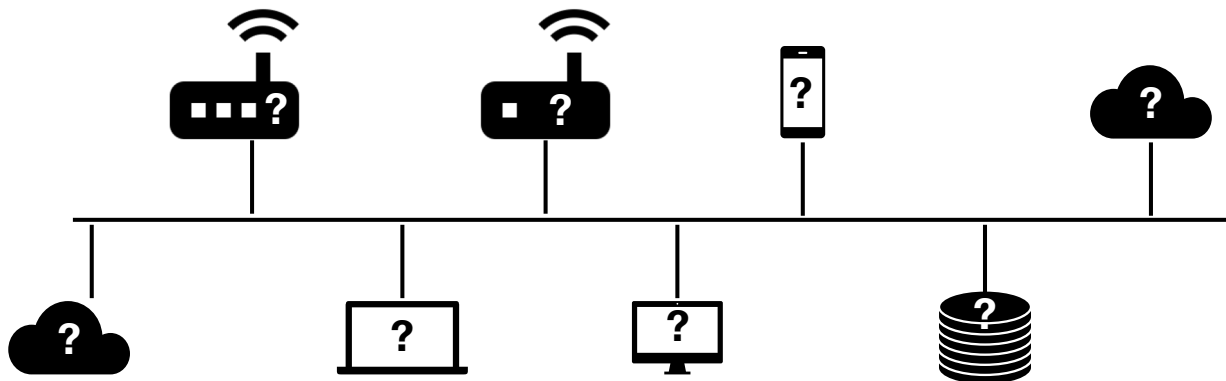
deploying a solution in an unknown network

Mikrotik

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…
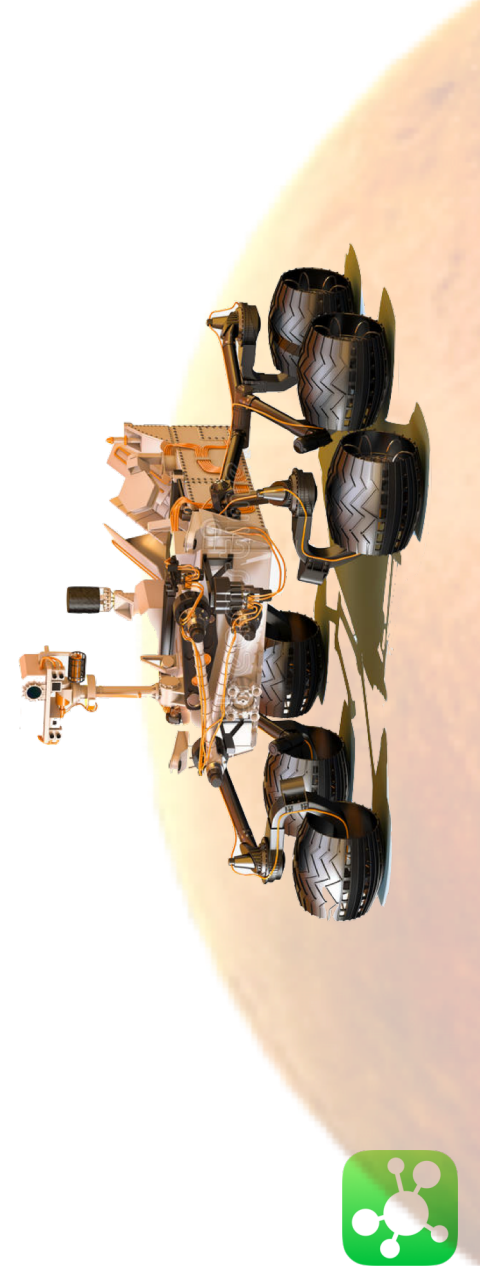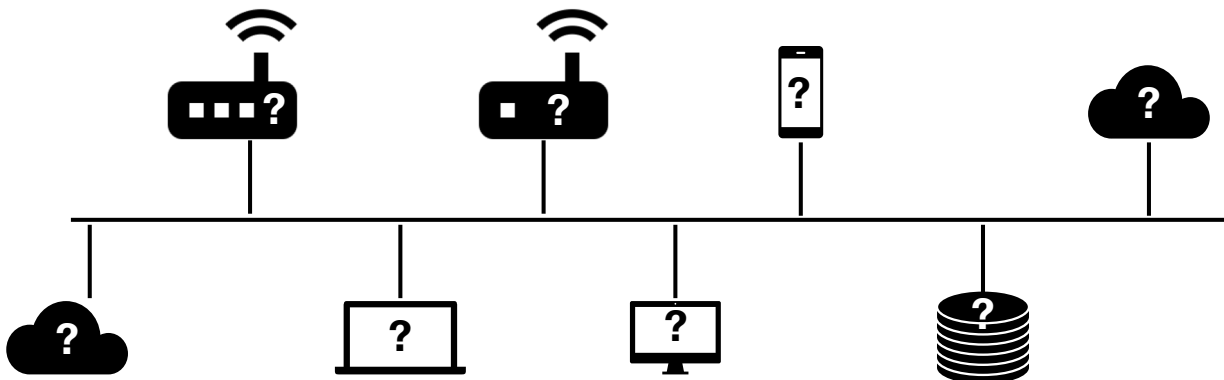
the discovery script (aka crawler)
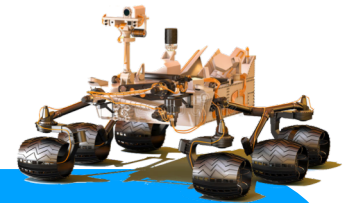
Identify WAN interface

```
###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";
    }
```
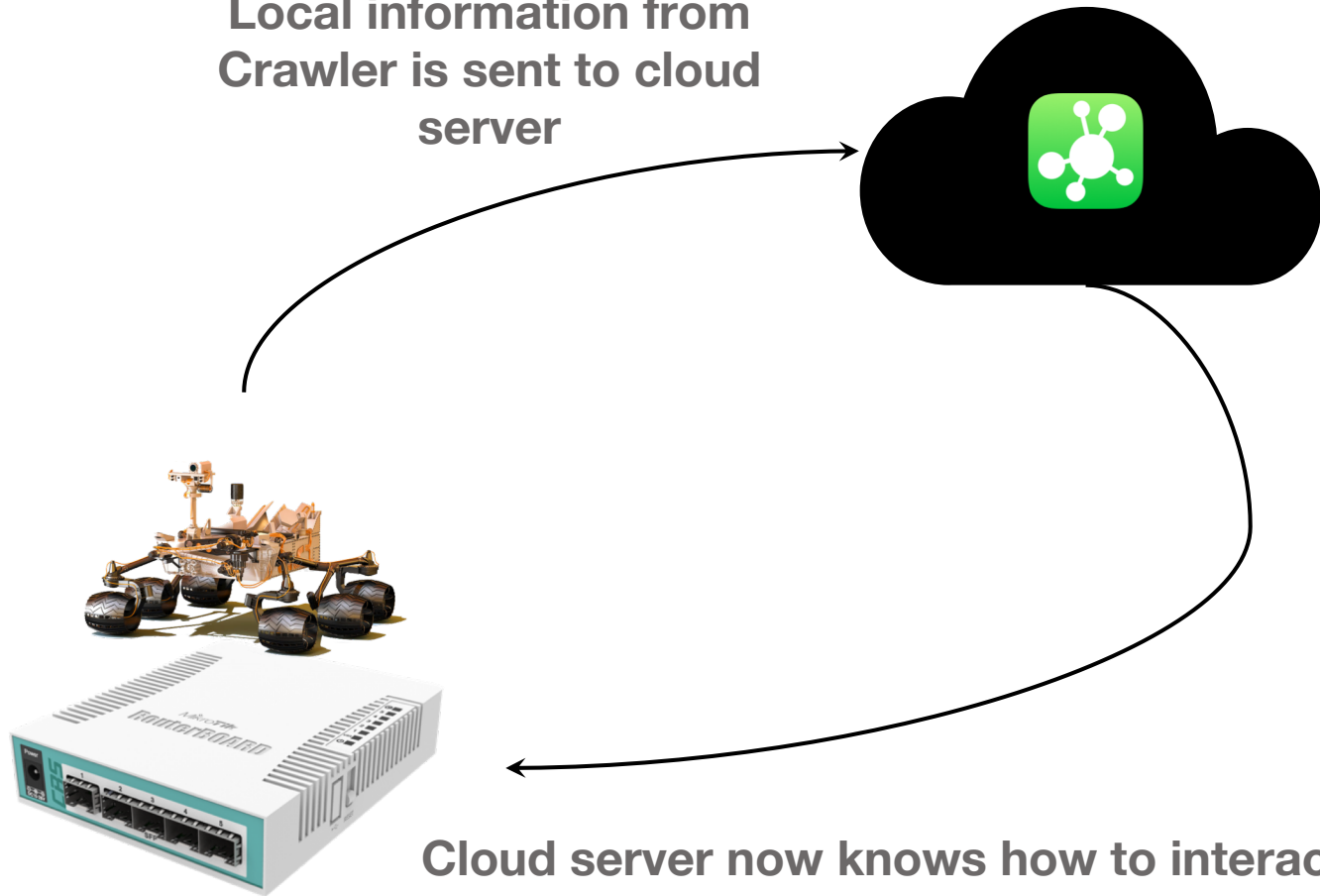
the discovery script (aka crawler)

Time Zone

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

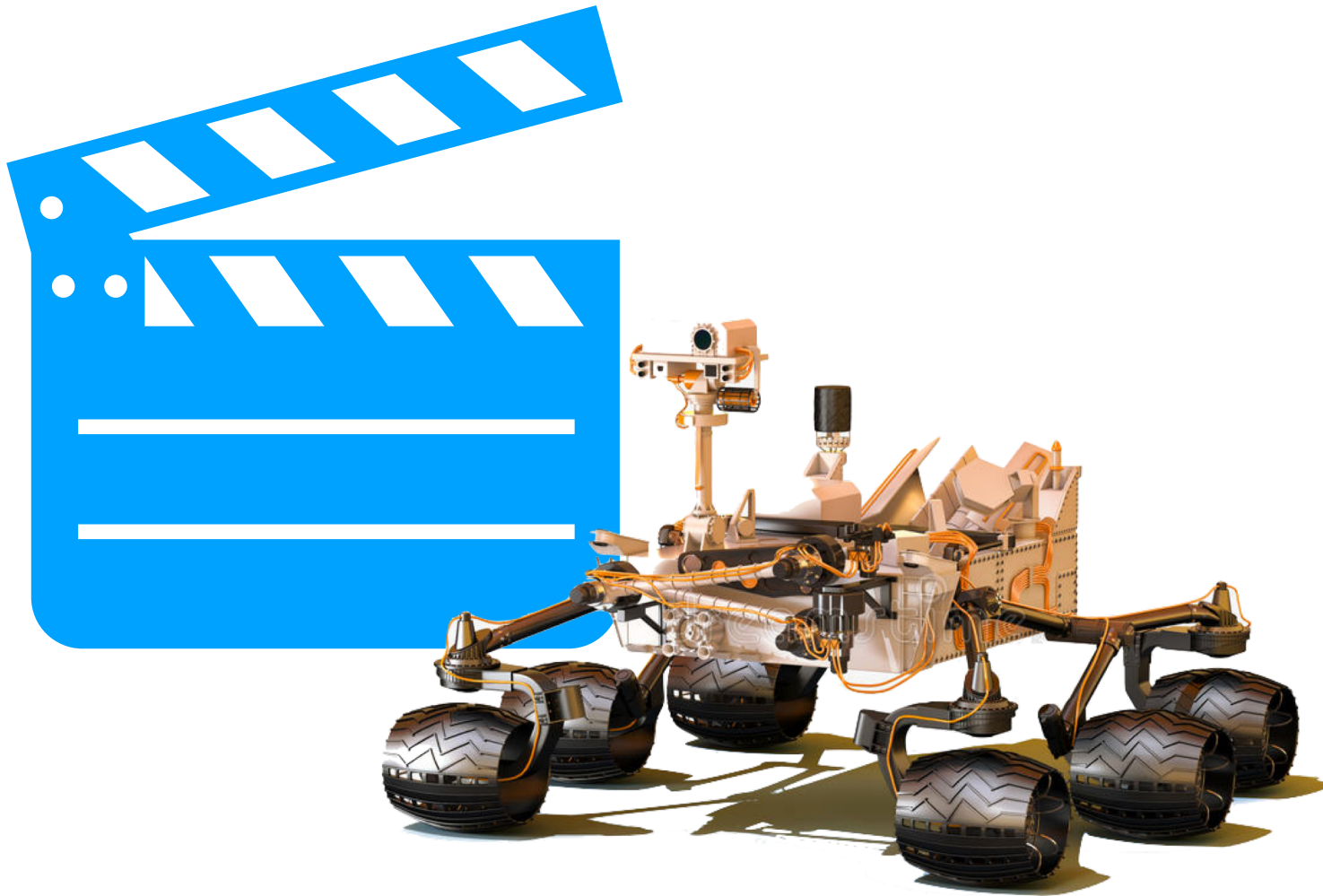# Now we know about the Router and can adapt

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!
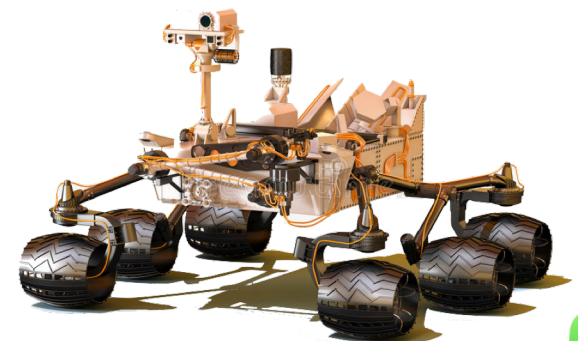
the discovery script (aka crawler)

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)