

# Network Tools

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# eTOM FAB

## Fulfillment

Inventory

Allocation

Config

Addressing

## Assurance

Performance  
Monitoring

Fault  
Management

Operational  
State

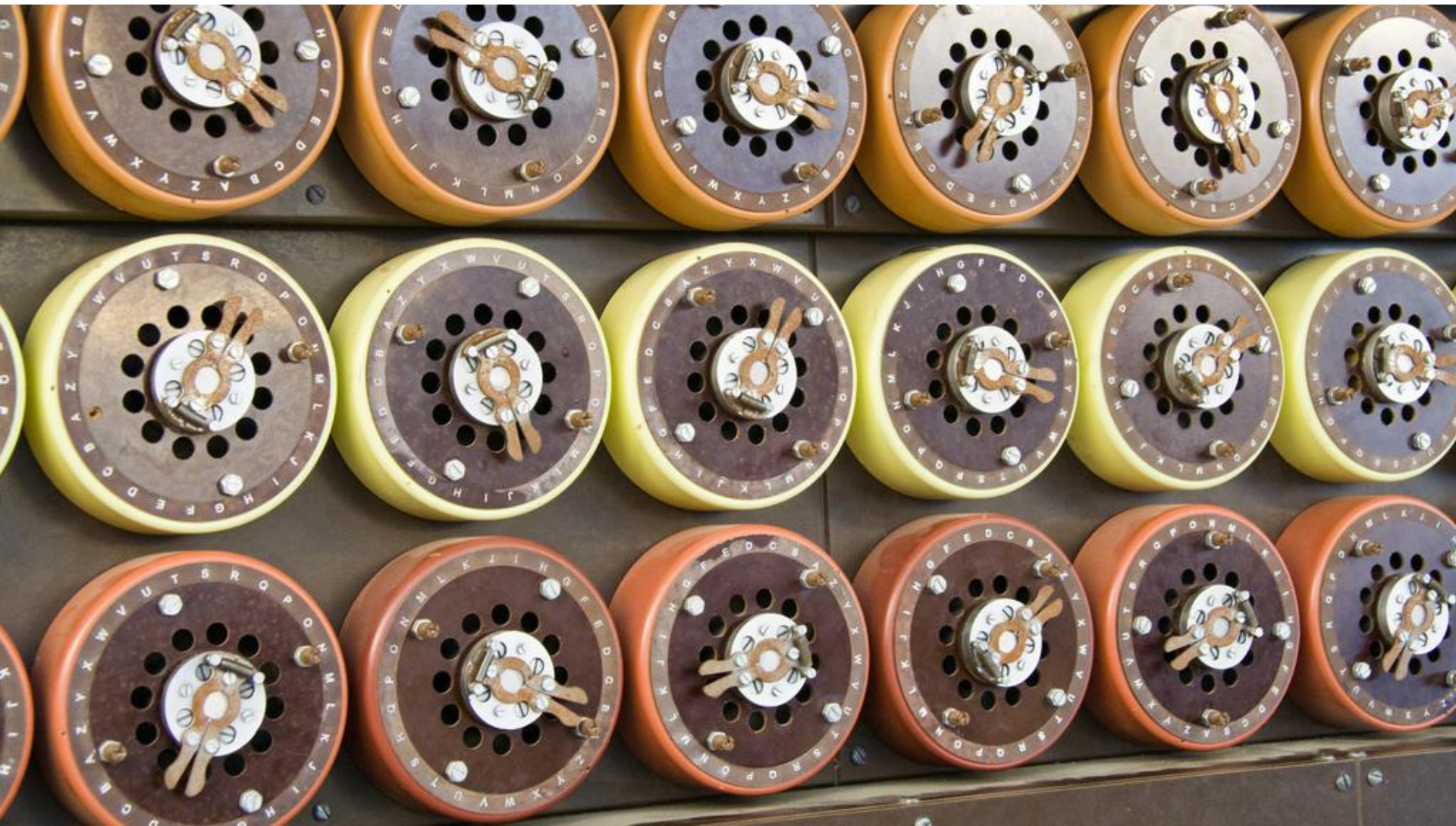
## Billing

Accounting

Entitlement/  
enforcement

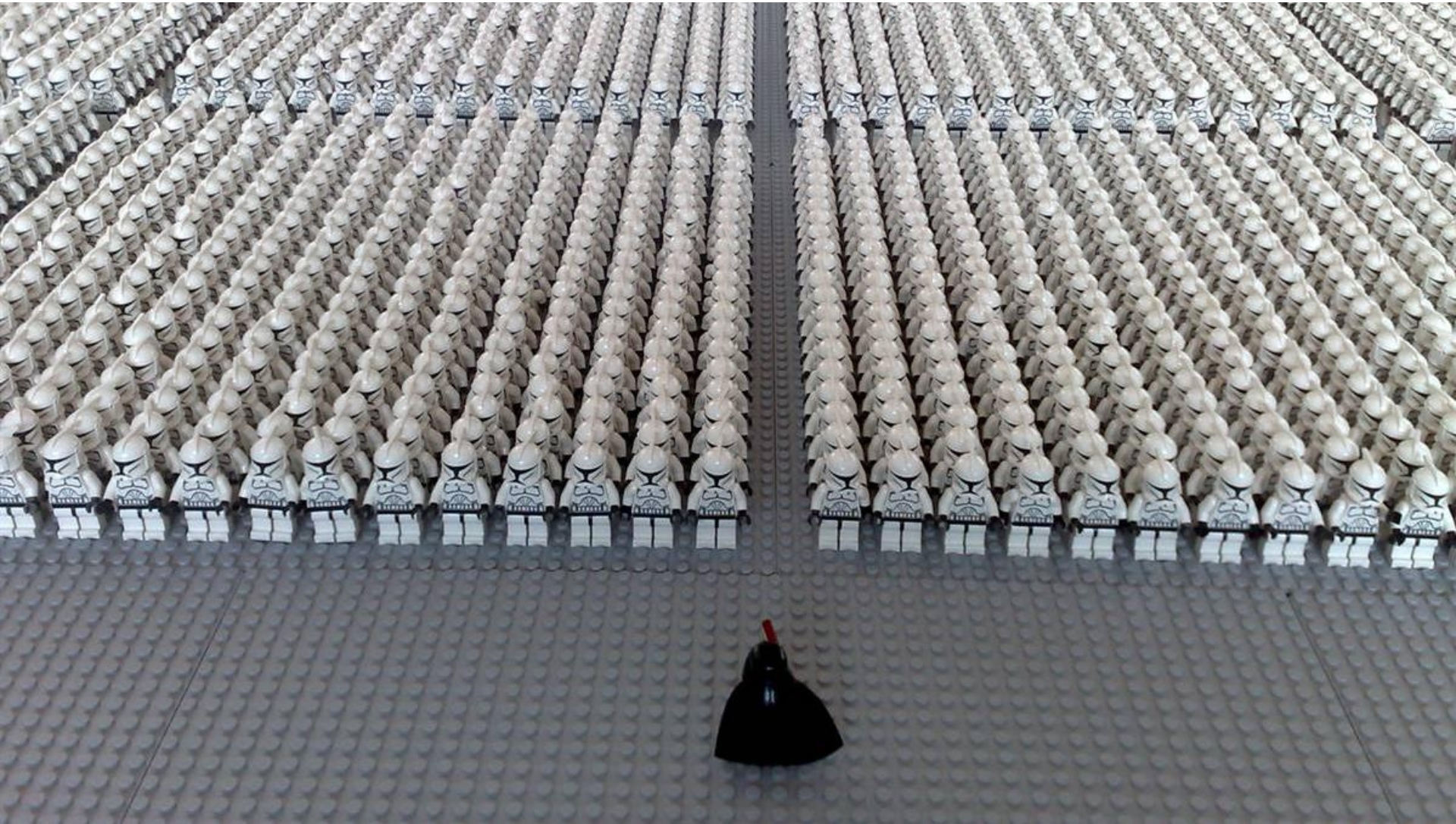


# Secret Tools vs Official Tools





# Who's the Audience?



# Peaceful Co-Existence



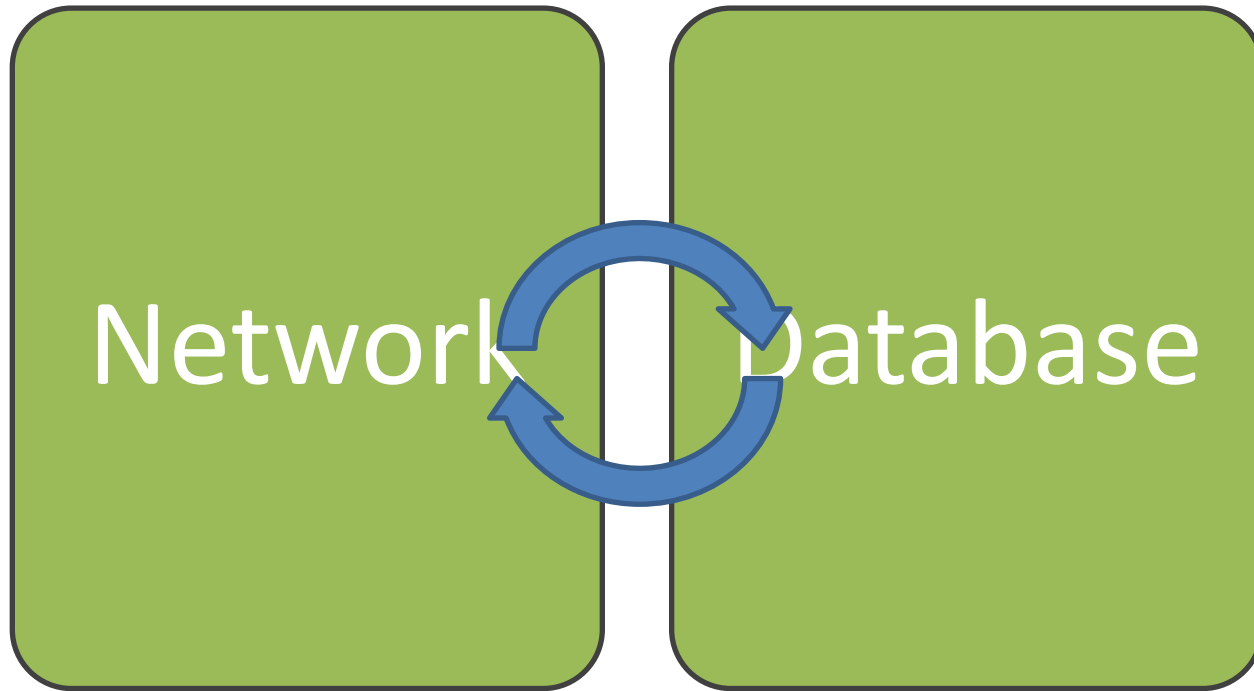
# Network vs Database



Network

Database

# Network vs Database



What **IS** deployed

What **SHOULD BE** deployed



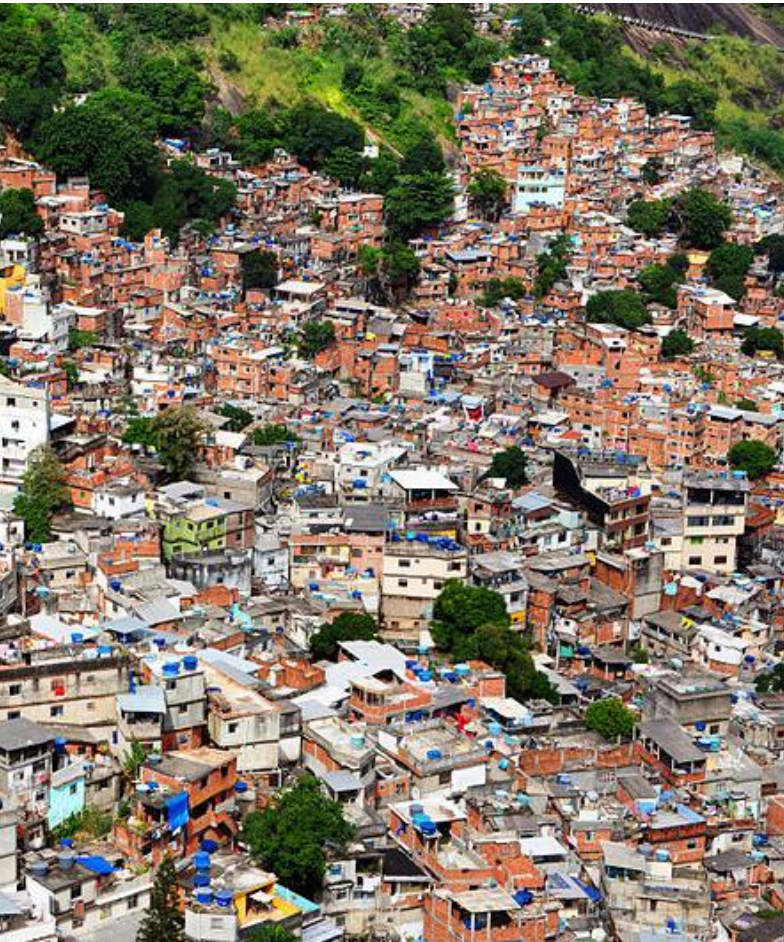
# Network vs Database



Don't believe his lies



# Scraped vs Structured



# Script building blocks

script

SNMP

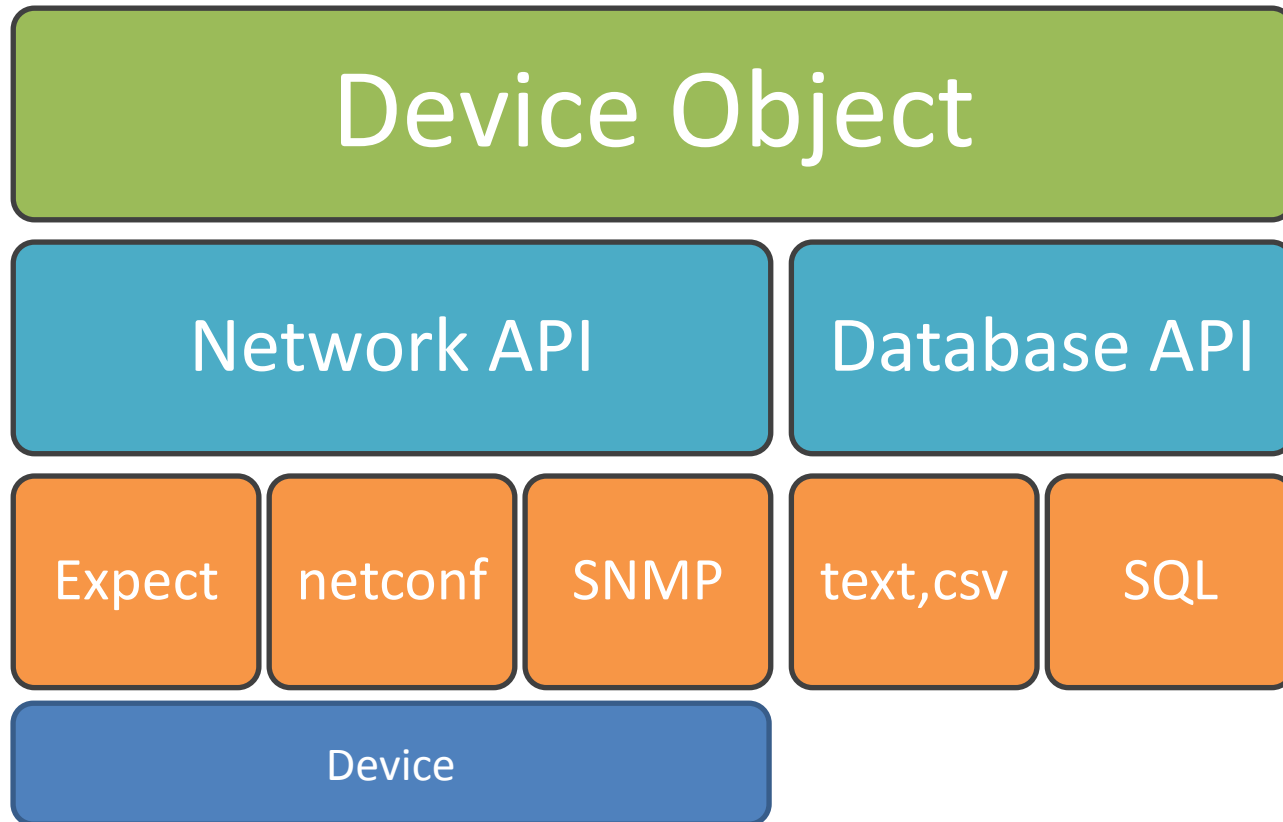
Expect

netconf

text,csv

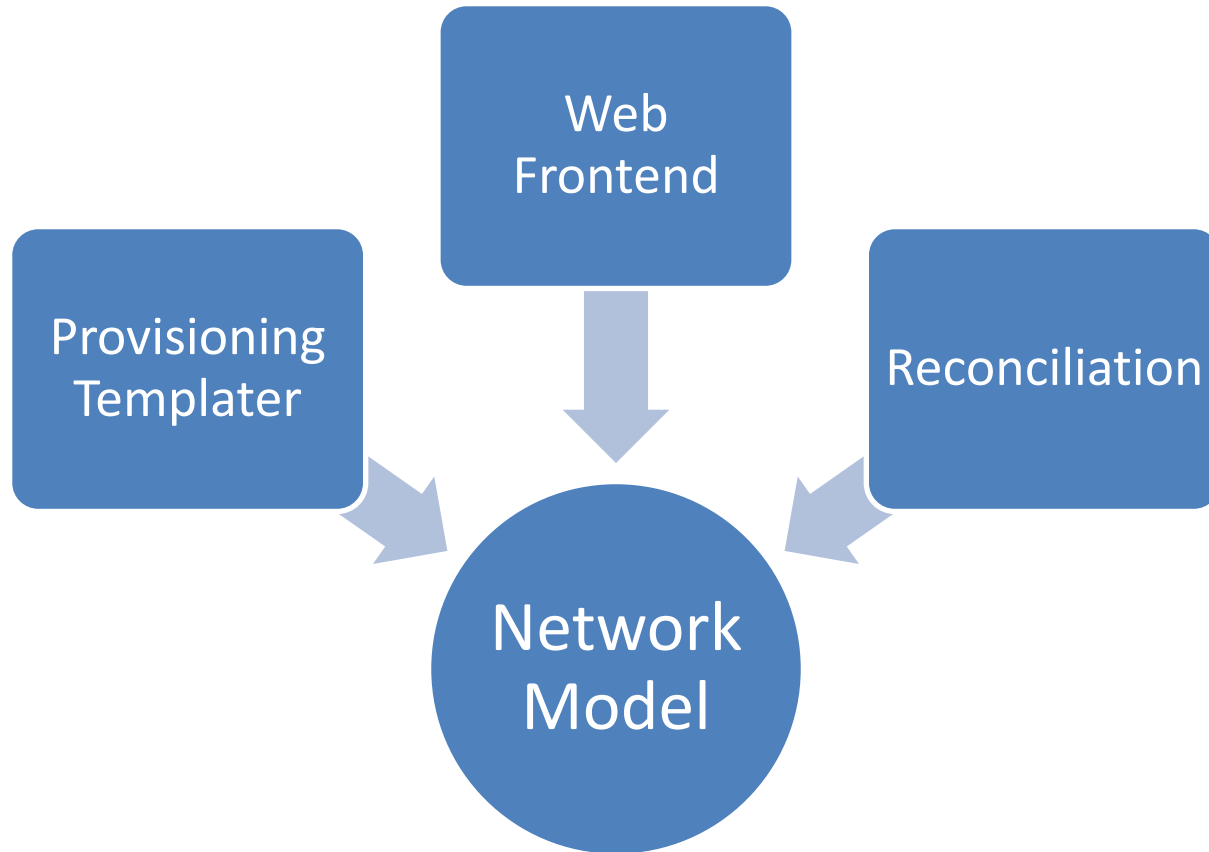
DBI SQL

# Abstraction





# Small Pieces, Loosely Joined



# De-couple collection & presentation



# Tools





# perl/php

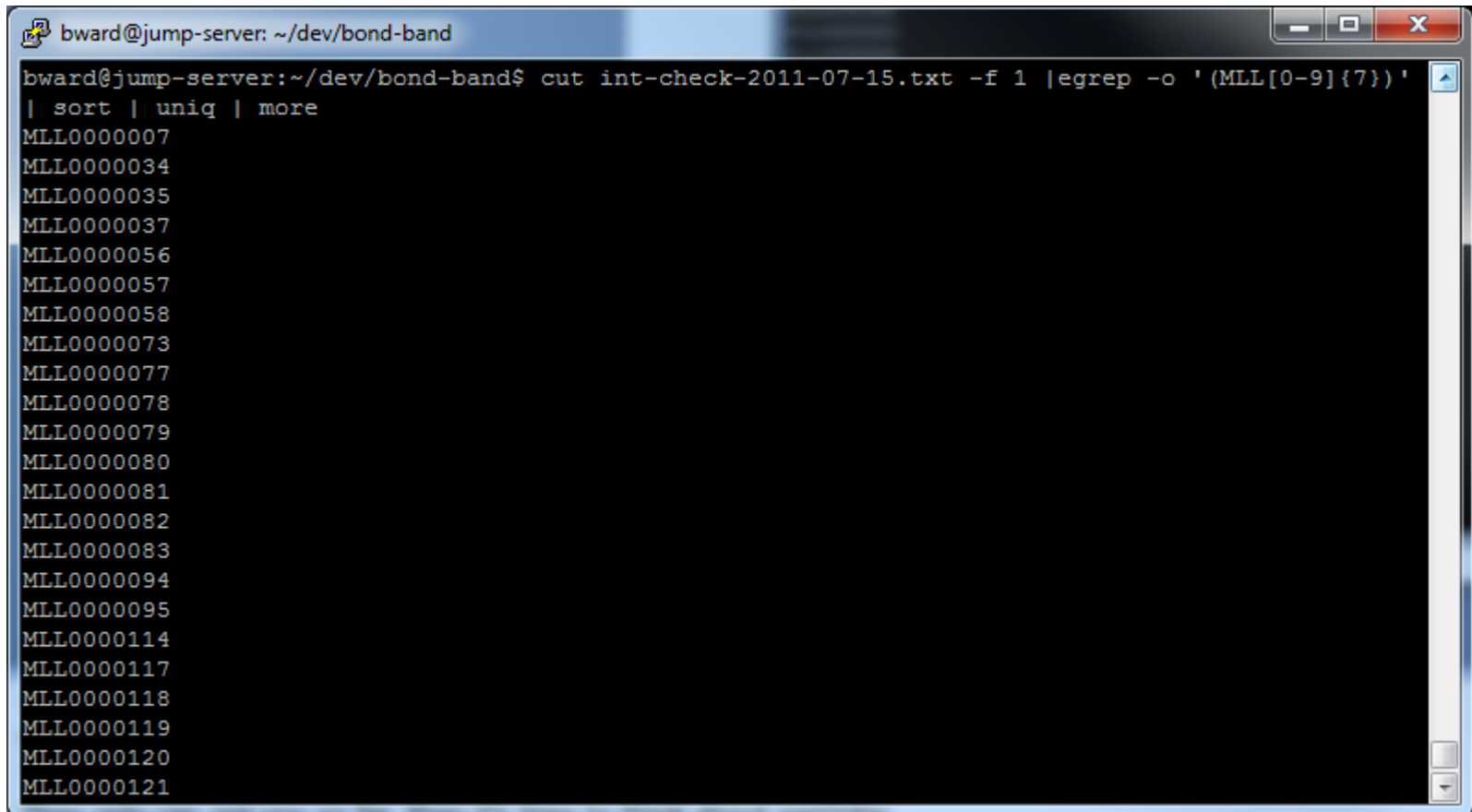
*“Our free software runs your company”*

-- CPAN

*“Perl is a write-only language”*

– Various confused maintenance programmers

# cut/awk/sed/uniq/sort/diff/regex



```
bward@jump-server: ~/dev/bond-band
bward@jump-server:~/dev/bond-band$ cut int-check-2011-07-15.txt -f 1 | egrep -o '(MLL[0-9]{7})'
| sort | uniq | more
MLL0000007
MLL0000034
MLL0000035
MLL0000037
MLL0000056
MLL0000057
MLL0000058
MLL0000073
MLL0000077
MLL0000078
MLL0000079
MLL0000080
MLL0000081
MLL0000082
MLL0000083
MLL0000094
MLL0000095
MLL0000114
MLL0000117
MLL0000118
MLL0000119
MLL0000120
MLL0000121
```

# Rancid/expect/cvsweb

core/configs/

Click on a directory to enter that directory. Click on a file to display its revision history and to get a chance to display diffs between revisions.

Current directory: [\[Local Repository\]](#) / [core](#) / [configs](#)

File	Rev.	Age	Author	Last log entry
<a href="#">Parent Directory</a>				
<a href="#">Attic/ [show]</a>				
<a href="#">cisco-boldhub-2800-ssl.biola.edu</a>	<a href="#">1.2</a>	2 weeks	nagios	updates
<a href="#">cisco-core-6500-ssl.biola.edu</a>	<a href="#">1.23</a>	3 days	nagios	updates
<a href="#">cisco-core-pix.biola.edu</a>	<a href="#">1.12</a>	13 days	nagios	updates

Really Awesome New Cisco config Differ

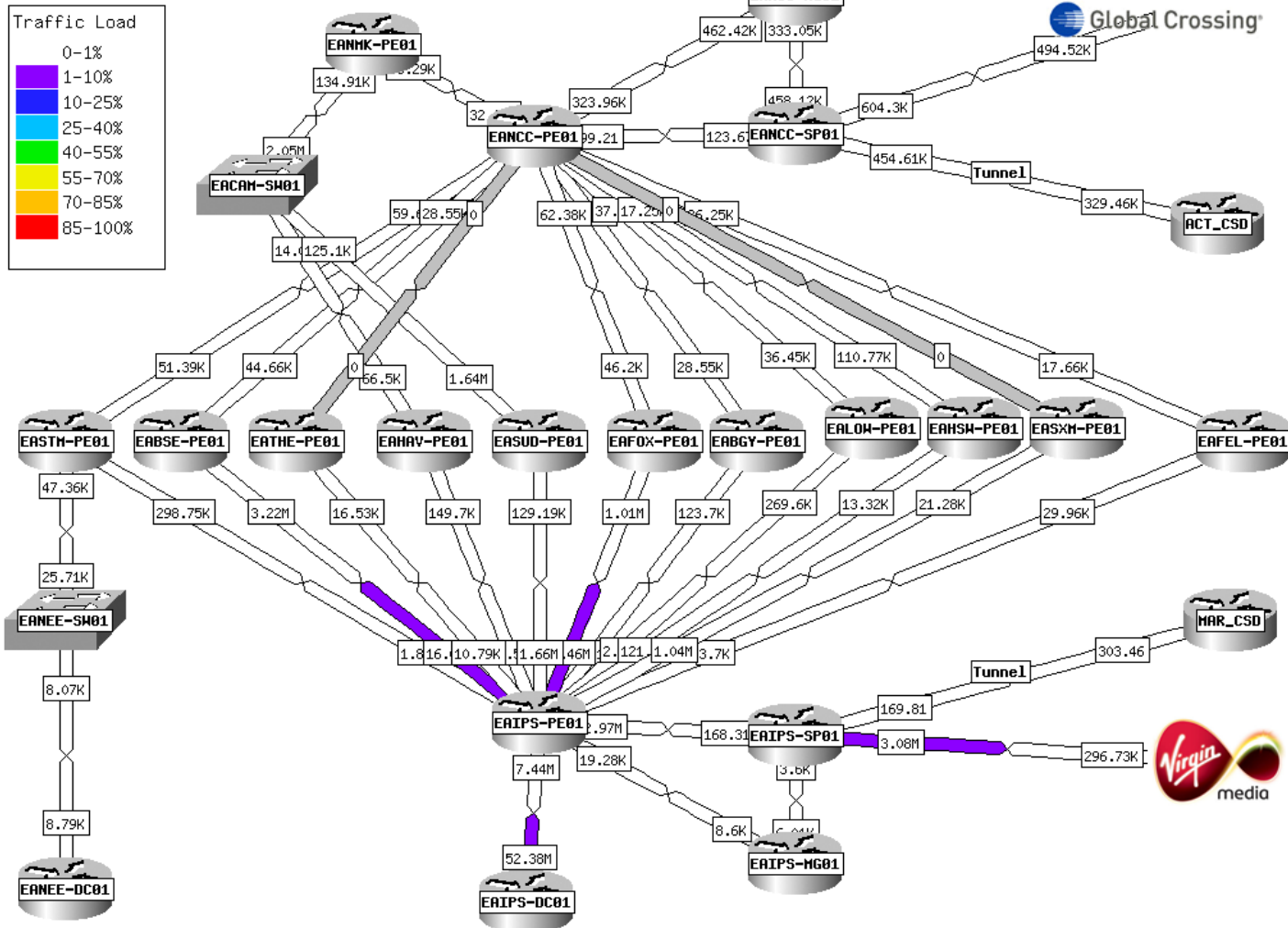


# Performance Monitoring Systems

- Cacti/rrdtool
- CA eHealth (Concord)
- IBM Netcool/Proviso (Quallaby)

# Cacti/rrdtool/weathermap

Created: Aug 31 2011 09:19:14



# Network Management Systems

- IBM Netcool
- CA Spectrum
- OpenNMS
- ZenOSS

The screenshot displays the CA Spectrum OneClick console interface. The left pane shows a navigation tree with various network components. The right pane shows a network topology diagram with a central router (EAIPS-PE01) connected to multiple other routers. Below the topology, a 'Component Detail' section shows a table of alarms for the selected component.

Severity	Date/Time	Name
Minor	25-May-2011 11:30:44 UTC	EAIPS-PE01_Transparent
Minor	28-Jul-2011 10:56:59 UTC	EAIPS-PE01
Admin Down	31-Aug-2011 00:01:25 UTC	EAIPS-PE01_ge-1/3/0
Maintenance	08-Aug-2011 08:20:56 UTC	EAIPS-PE01_ge-1/3/0.100



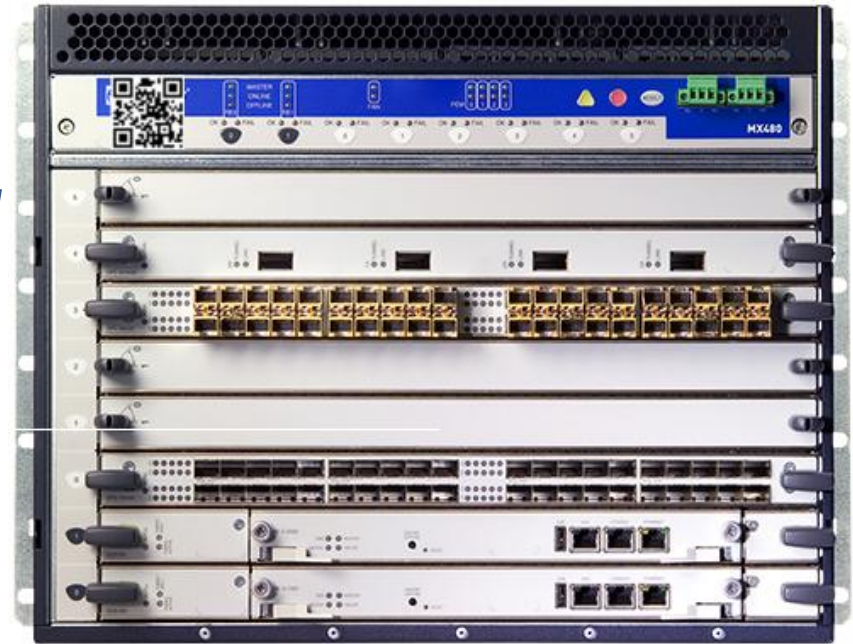
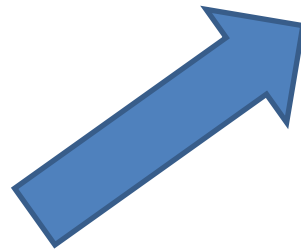
# Case Study: Device Status

- Re-use of data
- Inventory
- PHP
- Distribution of provisioning tests

# Field Engineer Tool

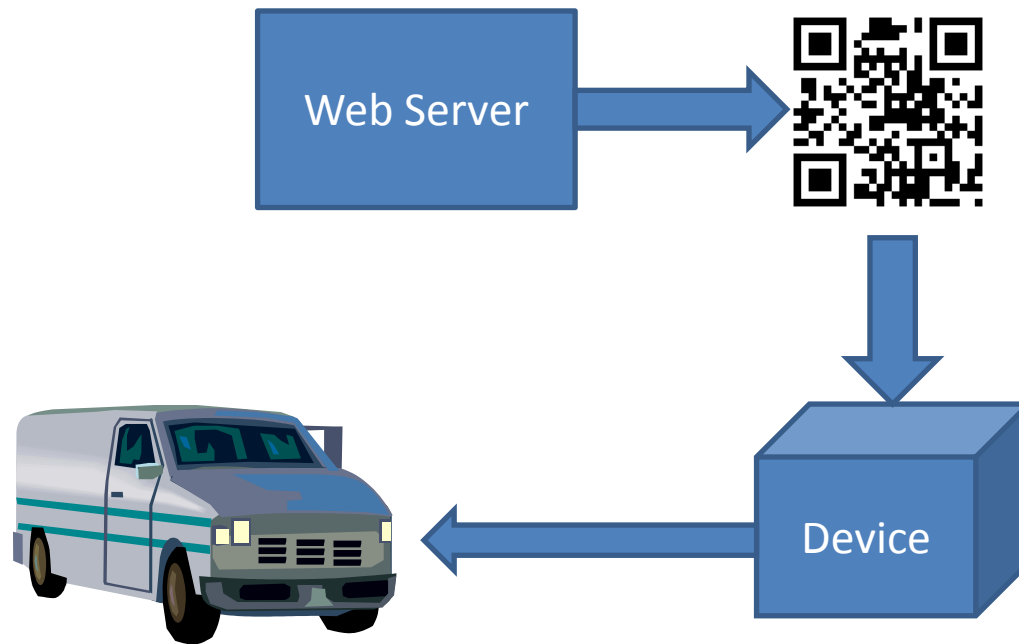
- Field Engineer's On-Site Installation Testing
- QR Code Label
  - Generated during staging/deployment
  - A URL containing the Chassis Serial Number
- Web Frontend controls backend testing
  - No need for laptop
  - Quick answer, basic troubleshooting

# Sticky Label



<https://m.externalwebserver.com/?csn=EA0197>

# Create Label





# Inventory & Status Page

## Ipswich Exchange – EAIPS

### General Information

Exchange name: Ipswich

Exchange code: EAIPS

Location: Suffolk

Address: Telephone Exchange,  
Portman Road,  
Ipswich,  
Suffolk,  
IP1 2AU

Postcode: IP1 2AU

Access Details: 24/7 Restricted List

Further Details: [Site Capabilities](#)



### Rack Diagrams

[Ipswich LCU MKII Rack 20101120 V2-0](#) [PDF]

[Generic BT LCU MKII Spec](#) [Word Document]

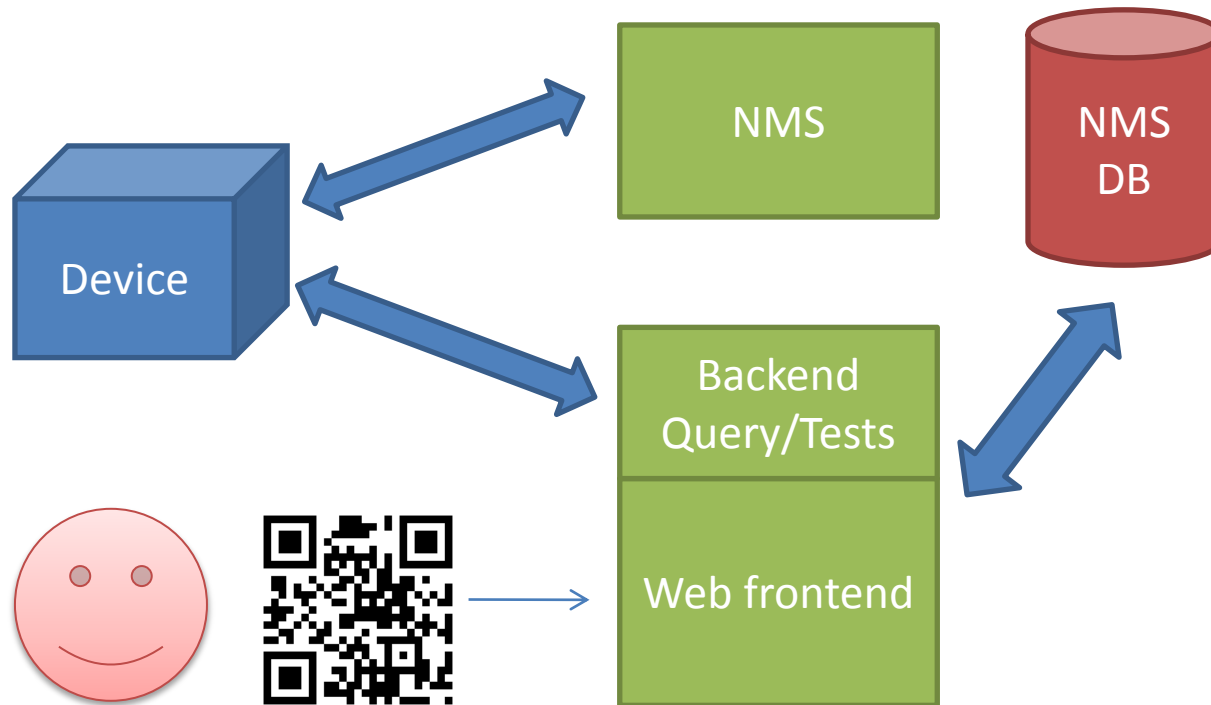
### Active Devices

Device	Rack ID	IP Address	Purpose	Type	Software	Owner	
EAIPS-PE01	Floor 1 ED25	10.254.1.1	Core PE Router	Juniper MX80	JunOS 10.3R1	MLL	
	Floor 1 ED25		Virgin Media Uplink	Cisco 3825		Virgin Media	
	Floor 1 ED25		ISP Feeds	Juniper SRX650		JunOS 10.2R3	MLL
	Floor 1 ED25		NOC Management	Juniper SRX650		JunOS 10.2R3	MLL
	Floor 1 ED25		Exchange Server	HP Proserve			MLL
EAIPS-DS01	Floor 1 ED25	10.251.0.10	DSLAM	Zhone MXK8		MLL	

### Customers

Customer Device	Type	Customer Name	IP Address
SCC-EAIPS-060-NT04	ETH2320	Age Concern Ipswich	10.251.0.20

# Look Up Serial, Query Device



# On-site Provisioning Check

## EA779 – Great Yarmouth Library

### Ping Tests

Test	Status	
NTE	Ping Successful	4ms
CPE	Ping Successful	4ms
Corporate VPN	Ping Successful	3ms
Library VPN	Ping Successful	3ms

### DSLAM Tests

Test	Status	Value	SNR	Length
Bond Group	Up	8mbps		
shdsl [LLEA4050145]	Up	4mbps	62db	1200m
shdsl [LLEA4050146]	Up	4mbps	60db	1210m

# Questions?

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