

Graham Gilbert / Brett Demetris / 20180220 

Curing operating system blindness



A long time ago...

In Dog Years

- macOS is the only first class citizen
- Commercial management tool
- Unmanaged Windows VM available
- What's security?



Not so long ago...

We found our way

- macOS is our single focus
- Munki is implemented
 - Established Patching SLA
- Source control is implemented
 - Global Visibility
 - Code Review
 - Cross Team Function
- Strong focus on Security

What are we trying to achieve?™

- Keep Airbnb's, our host's and our guest's information secure
- Enable Airbnb employees to be productive

What tools do we have?

What tools do we have?

- **Munki** Software updates
- **Crypt** FileVault key escrow
- **Sal** Reporting
- **Puppet** Configuration management
- **microMDM** DEP / Bootstrapping

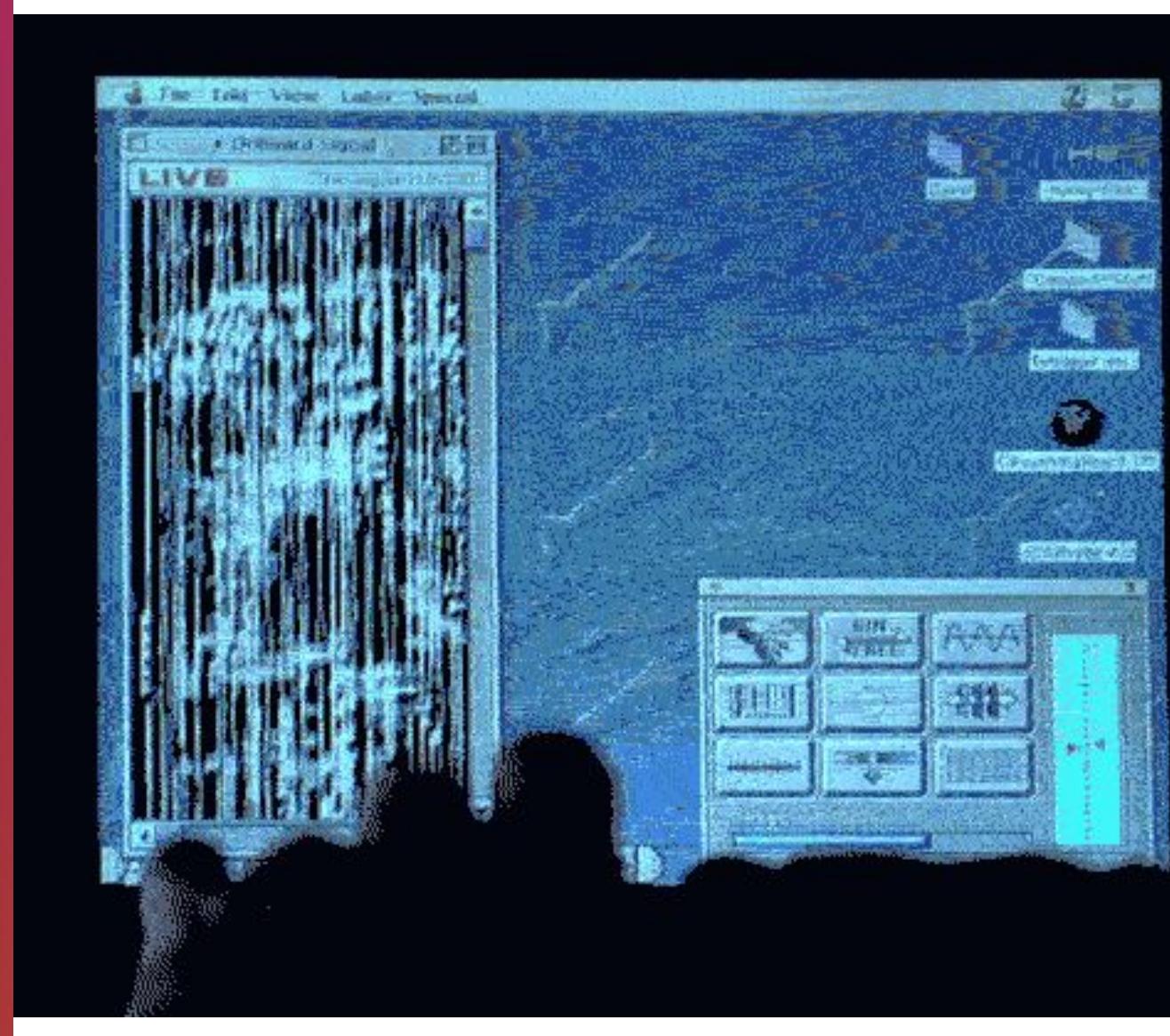
And then we bought a company

**“Hey, guys.... How do you feel about
managing Windows?”**

HORRORFIXXX



**“Just give them a
Mac”**



“Just give them a Mac”

- We don't have processes to manage another platform
- We don't have time to manage another platform
- We don't *want* to manage another platform



Their entire product was built on a Microsoft stack

Financey software



Are we the baddies?

Be a host

We need to support Windows



Let's Yabba-Daba



macOS

Patching (Munki)
Configuration (Puppet)
FileVault (Crypt)
Reporting (Sal)
MDM (microMDM)

Windows

Patching (??)
Configuration (Puppet)
BitLocker (??)
Reporting (??)
MDM (??)

How do we do it on a mac?

Install a Certificate

```
define certificates::root (
  String $source,
  String $sha1,
  String $trust_level = 'trustRoot',
)
```

A Certificate is pretty simple on a mac

It takes a source, a sha1, and a trust level

```
certificates::root { 'My Internal Cert':
  source      => "puppet:///modules/internal_certs/my_cert.crt",
  sha1        => '5bc875fa06f5105b36f0913f199ce98e67d24895',
  trust_level => 'trustRoot'
}
```

How does it look on Windows?

What did you expect?

```
sslcertificate { "mycert.crt":  
  name      => 'mycert.crt',  
  password  => 'password123',  
  location   => "${::facts['puppet_vardir']}/certificates",  
  thumbprint => upcase($sha1)  
}
```

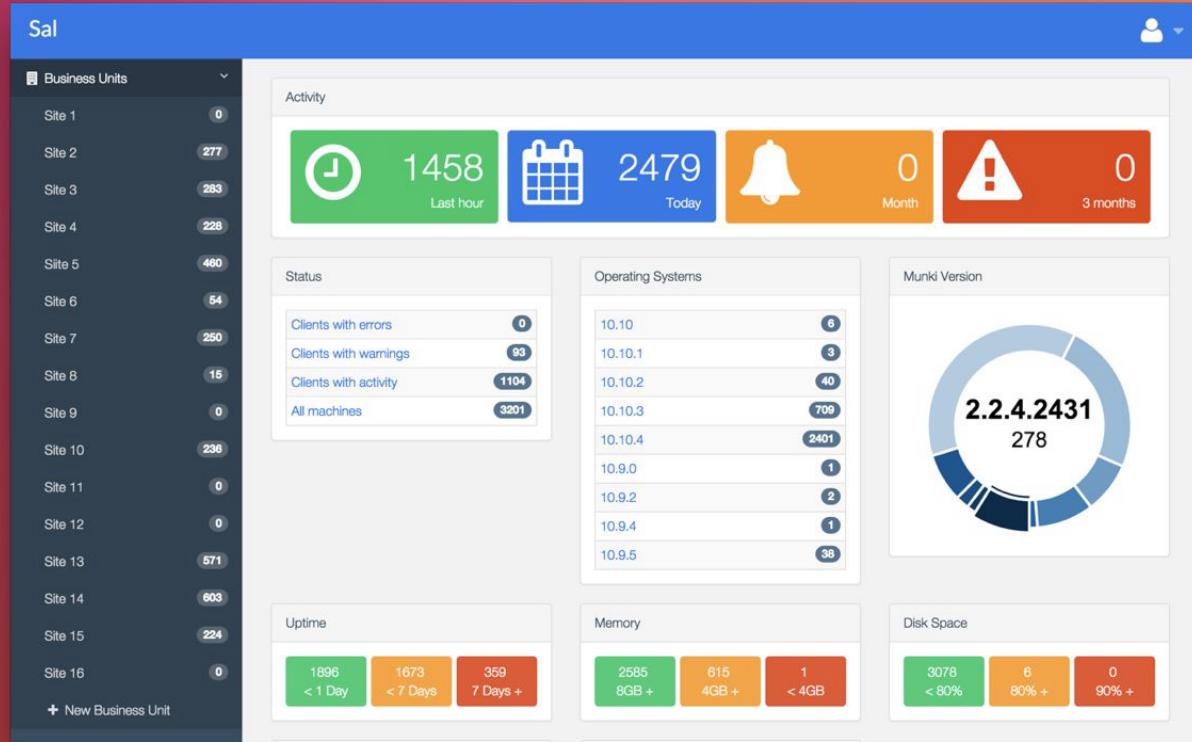
- Windows and Mac have the same implementation on the surface
- Providers handle the OS specifics under the hood
- The properties of a certificate don't change between Operating Systems

**Stop offering the OS
Start offering the service**

IF A CLIENT DOESN'T
CHECK IN



DOES IT EXIST?



Gosal

A Windows Client for Sal

- Powershell exec
- Go Struct
- POST Request

github.com/airbnb/gosal

But... We have a third operating system

Chrome OS

Why Chrome OS?

- No more imaging / provisioning
- Built in patching
- Verified Boot
- Decent devices are really cheap

**But you can only do what Google lets you,
right?**





DEVTOOLS ▾

MULTI-DEVICE ▾

PLATFORM ▾



Apps

Extensions

Learn Basics

Getting Started
Tutorial

Samples

Develop Extensions

Distribute Extensions

Chrome Platform
APIs**JavaScript APIs**Manifest File
Format

Web APIs

Permission
WarningsOptional
Permissions

Match Patterns

Help

Native Client

Store

JavaScript APIs

Chrome provides extensions with many special-purpose APIs like `chrome.runtime` and `chrome.alarms`.

Stable APIs

Contents

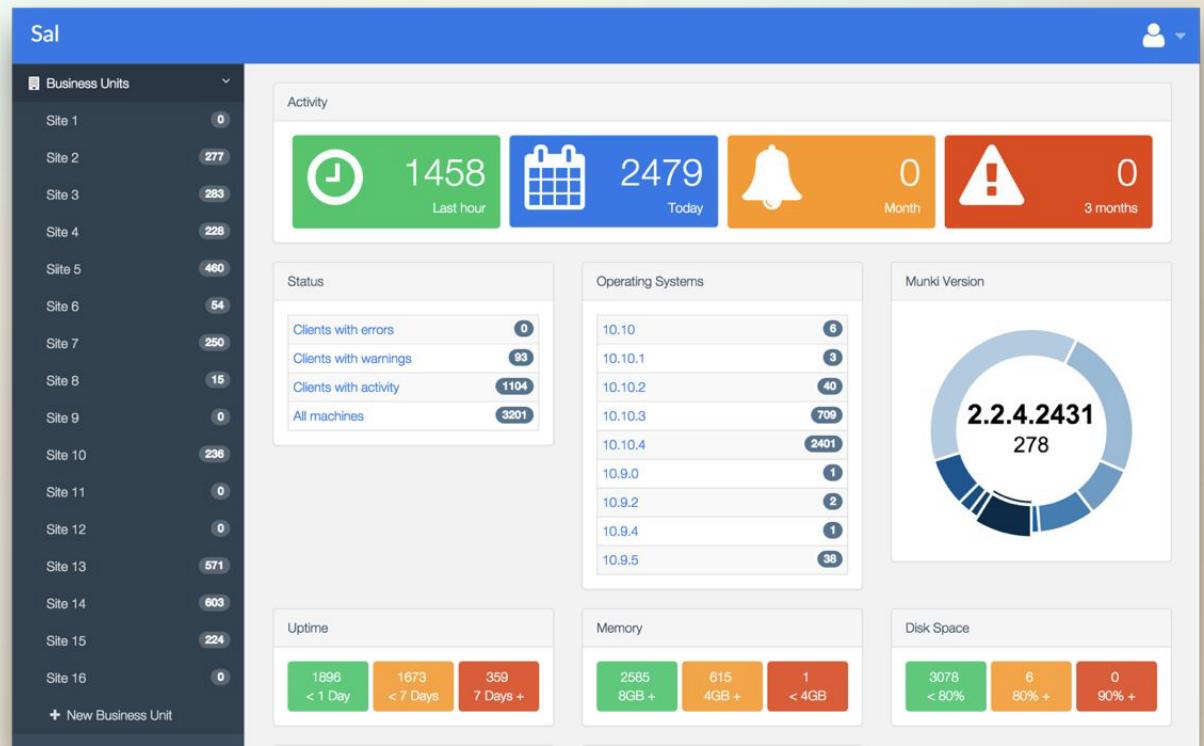
[Stable APIs](#)[Beta APIs](#)[Dev APIs](#)[Experimental
APIs](#)[API conventions](#)

Name	Description	Since
accessibilityFeatures	Use the <code>chrome.accessibilityFeatures</code> API to manage Chrome's accessibility features. This API relies on the ChromeSetting prototype of the type API for getting and setting individual accessibility features. In order to get feature states the extension must request <code>accessibilityFeatures.read</code> permission. For modifying feature state, the extension needs <code>accessibilityFeatures.modify</code> permission. Note that <code>accessibilityFeatures.modify</code> does not imply <code>accessibilityFeatures.read</code> permission.	37
alarms	Use the <code>chrome.alarms</code> API to schedule code to run periodically or at a specified time in the future.	22
bookmarks	Use the <code>chrome.bookmarks</code> API to create, organize, and otherwise manipulate bookmarks. Also see Override Pages , which you can use to create a custom Bookmark Manager page.	19
browserAction	Use browser actions to put icons in the main Google Chrome toolbar, to the right of the address bar. In addition to its <code>icon</code> , a browser action can also have a <code>tooltip</code> , a <code>badge</code> , and a <code>popup</code> .	19

IF A CLIENT DOESN'T
CHECK IN



DOES IT EXIST?



 Advanced Search Chrome OS Devices Overview Facter Conditions Application Inventory Computer

Chrome OS Device

Report :: 2018-02-11 22:14

Pending Installs ▾

Notifications



0 Errors



0 Warnings



0 Pending Installs

Machine Details

Model: Google Pixelbook
Processor: Intel(R) Core(TM) i3-5005U CPU 2.00GHz
RAM: 8 GB
Serial: A0200B86-AAA0-00A0-0A0A-AAAA00000
OS version: 64.0.3282.144
Deploy Status: Deployed

Management Tools

[Advanced Search](#)[Back](#)[Export CSV](#)

Application Inventory for Machine: Chromebook

Show 25 entries

Search:

Name	Bundle ID	Bundle Name	Install Count
1Password X (beta)	khgocmkpikpnmmkgmdnfckapcdkgfaf		1
Chromebook Recovery Utility	jndclpdabaamdhonoechohibbimdgai		1
ChromeSal	ohnahlfkoiaeknjjhcnhcjgpemccoklg		1
Cisco WebEx App for Chrome	fceempjejfaadkgdacpfhheknnndlclj		1
Cisco WebEx Extension	jhmfgmfgeifomenelglieieghnighma		1
GlobalProtect	nicidmbokaedpmoegdbcebhnchpegcde		1
Google Docs	fgbakocaamckmahiegoajipleckepgpm		1
Google Drawings	comidegkhoojfbjhioinljifjolcj		1
Google Forms	kdrnjchdofihcohancegjiogehalmkba		1
Google My Maps	bpfmilkhmlbehehijklbemjlideclmhlpb		1
Google Play	komhbcfkdcgmcdoenjcjheifdiabikf		1
Google Sheets	eeipohcoolhaigpjlkfknjbbedjgkpcn		1
Google Sites	phhmhpgbmkjhhocndpfbhpbakkdagdil		1
Google Slides	holaiadndlekbinnndlbnaiiddjlcpcobi		1
Google Verified Access by Duo	lojeokmpinkpmpbakfkfpghpapbgnd		1
Lucidchart Diagrams	oilengkmkbglbiopfmekaaffieepokm		1

ChromeSal

- graham.at/chromesal
- github.com/salopensource/chromesal
- Requires Sal 3.3.0

What's next?

Package management for Windows

Windows package management

- An army of helpdesk people to install things by hand
- Chocolatey Enterprise
- Munki for Windows?

Managing Chrome OS is GUI based

More information

Questions?

graham.at/movember

