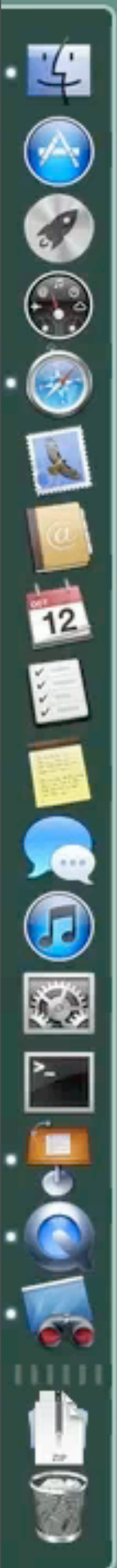


Automation for Admins

MacTech Conference 2012

Armin Briegel



Remote Desktop

Observe Control Curtain

Copy Install UNIX

Reports Spotlight

Filter

All Computers

Scanner

Cubicle

Teamspot

Home

SOS Lab

Task Server

Active Tasks

History

Copy Items

Restart Comp...

Copy Items

Copy Items

Install Packages

Send UNIX Co...

Send UNIX Co...

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Name	Current Status	IP Address	Current Application	ARD Version
cal-imac04	Idle (18h 46m)		Login Window	3.5.3
cal-imac05	Idle (24h 48m)		Login Window	3.6
cal-mbp02	Available		Terminal	3.5.3
cal-mini03	Available		Console	3.5.3
cal-mini04	Available		Terminal	3.5.3

5 computers 1 selected

Automation for Admins

MacTech Conference 2012

Armin Briegel

Armin Briegel

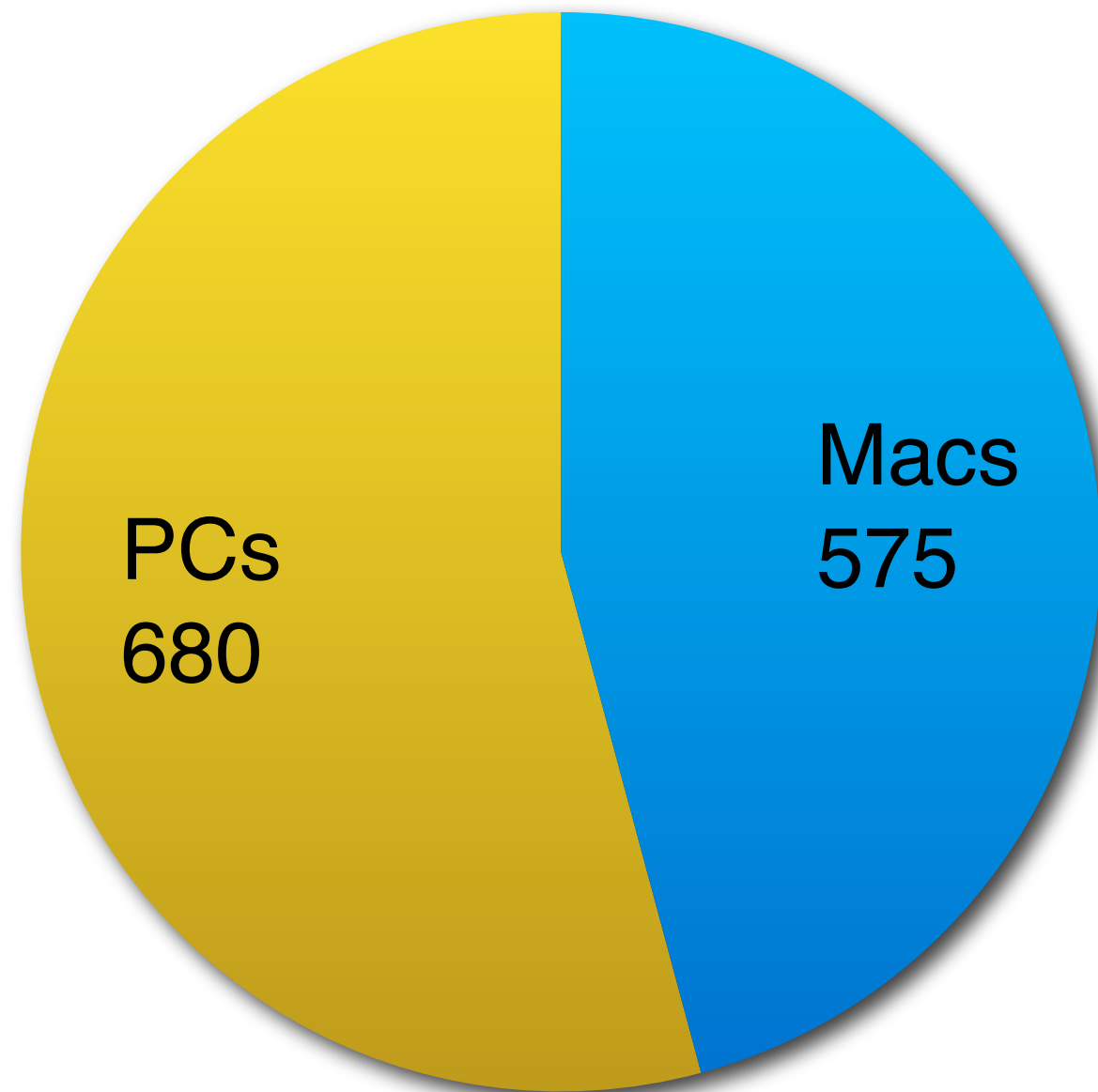
@scriptingosx

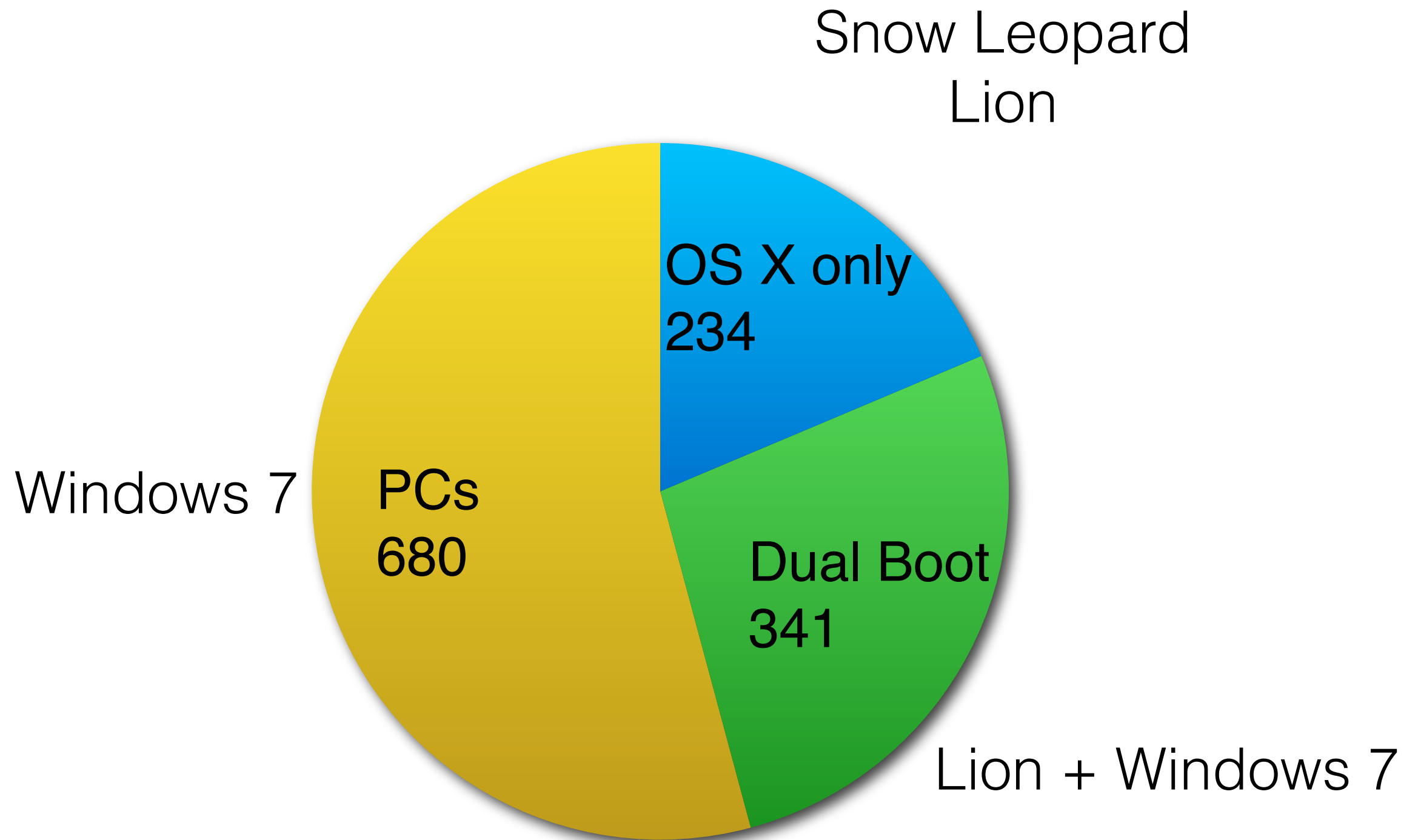


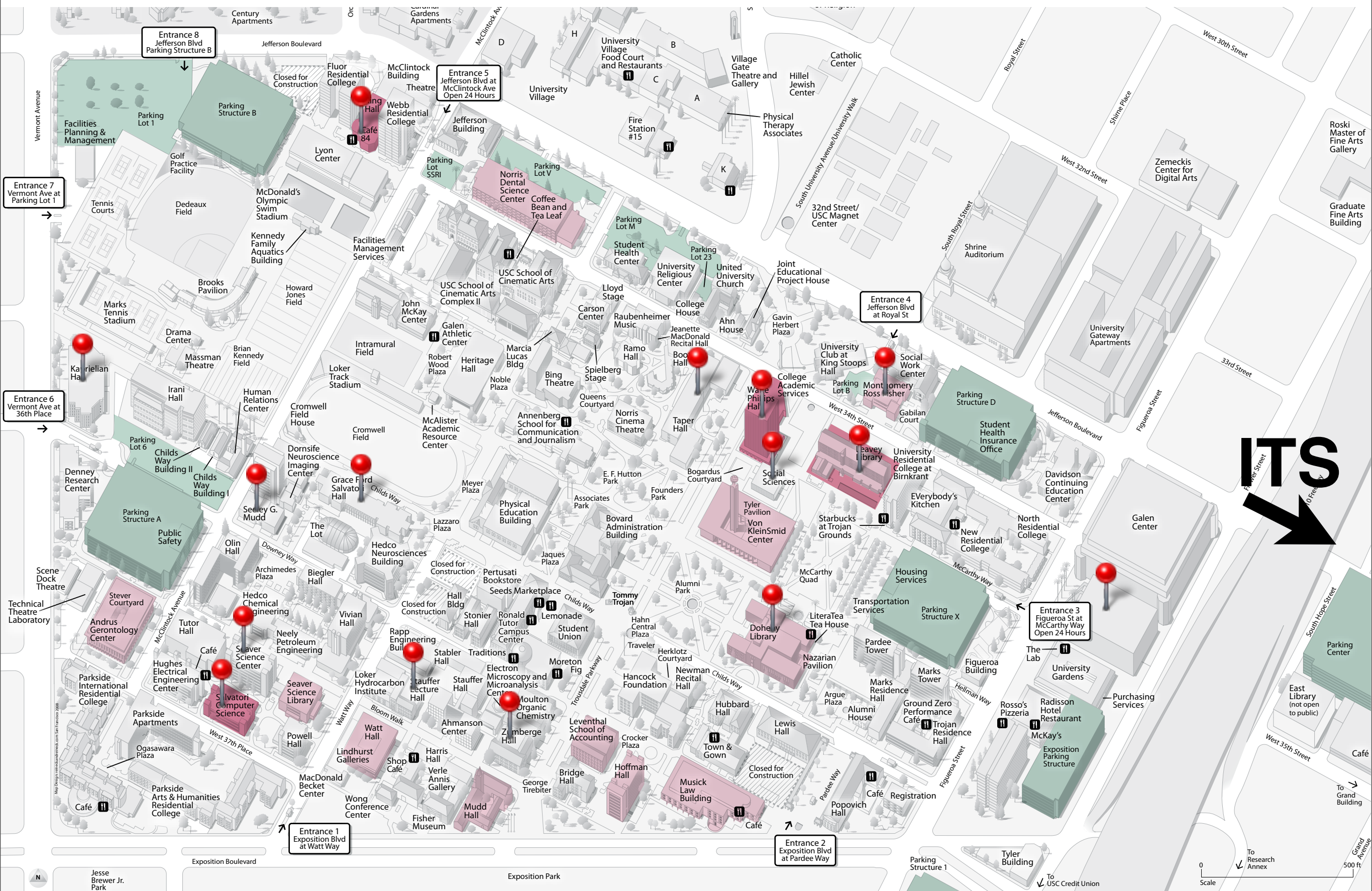
USC University of
Southern California



Photography by J.P Morgan









Open SSH

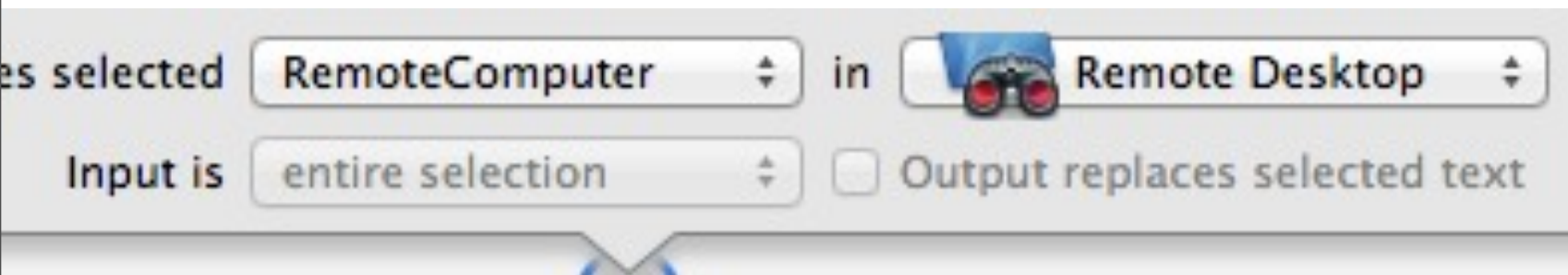


```
on run {input, parameters}  
  tell application "Remote Desktop"  
    repeat with theComputer in input  
      set adminname to "labadmin"  
      set fqdn to DNS name of theComputer  
      open location "ssh://" & adminname & "@" & fqdn & "/"  
    end repeat  
  end tell  
  return input  
end run
```

Don't Panic!

`scriptingosx.com/mactech2012`

Open SSH



```
on run {input, parameters}
  tell application "Remote Desktop"
    repeat with theComputer in input
      set adminname to "labadmin"
      set fqdn to DNS name of theComputer
      open location "ssh://" & adminname & "@" & fqdn & "/"
    end repeat
  end tell
  return input
end run
```


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Copy Items

Restart Comp...

Copy Items

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Install Packages

Send UNIX Co...

Send UNIX Co...

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Name	Current Status	IP Address	Current Application	ARD Version
cal-imac04	Idle (12h 29m)		Login Window	3.5.3
cal-imac05	Idle (10m)		Login Window	3.6
cal-mbp02	Idle (41m)		Login Window	3.5.3
cal-mini01	Idle (0m)		Login Window	3.5.3
cal-mini04			-	3.5.3

Get Info

Control

Observe

Send Message

Label

Services

Show system

Remote BootPicker (Popup)

Open SSH ⌘S

Open JSS Details Page

Clear SSH hostkey

Boot to Mac OS X

+ -

5 computers 1 selected

ARD-Terminal Services



- Open SSH
- Clear SSH Key
`ssh-keygen -R hostname`
- Show System Log

Show System Log



```
on run {input, parameters}
```

```
  tell application "Remote Desktop"
```

```
    repeat with theComputer in input
```

```
      set adminname to "labadmin"
```

```
      set fqdn to DNS name of theComputer
```

```
    tell application "Terminal"
```

```
      do script "ssh " & adminname & "@" & fqdn  
                & " '/usr/bin/tail -f /var/log/system.log'"
```

```
    end tell
```

```
  end repeat
```

```
end tell
```

```
return input
```

```
end run
```

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Home

SOS iMacs

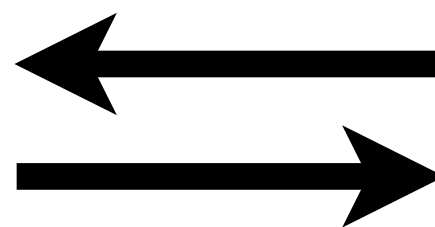
Task Server

Active Tasks

History

Name	Current Status	IP Address	Current Application	ARD Version
cal-imac04	Idle (45m)		Login Window	3.5.3
cal-imac05	Idle (26h 35m)		Login Window	3.6
cal-mbp02	Available		Login Window	3.5.3
cal-mini03	Idle (50m)		Login Window	3.5.3
cal-mini04	Available		Login Window	3.5.3

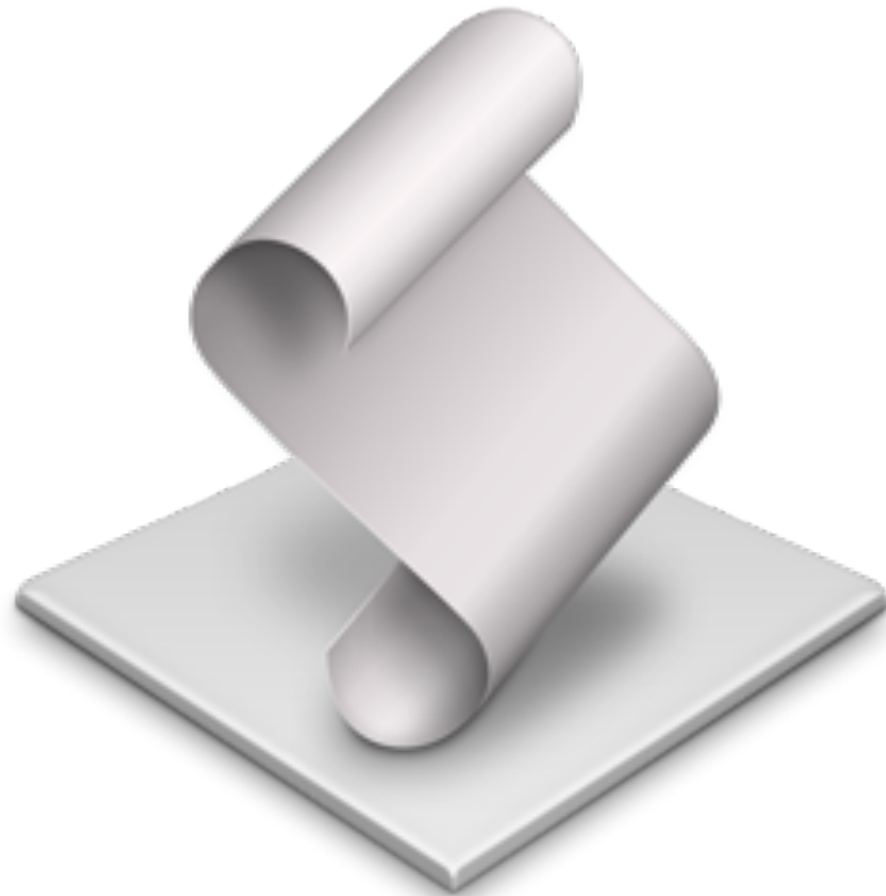
5 computers 1 selected



Screen Sharing

~~> open vnc://hostname~~



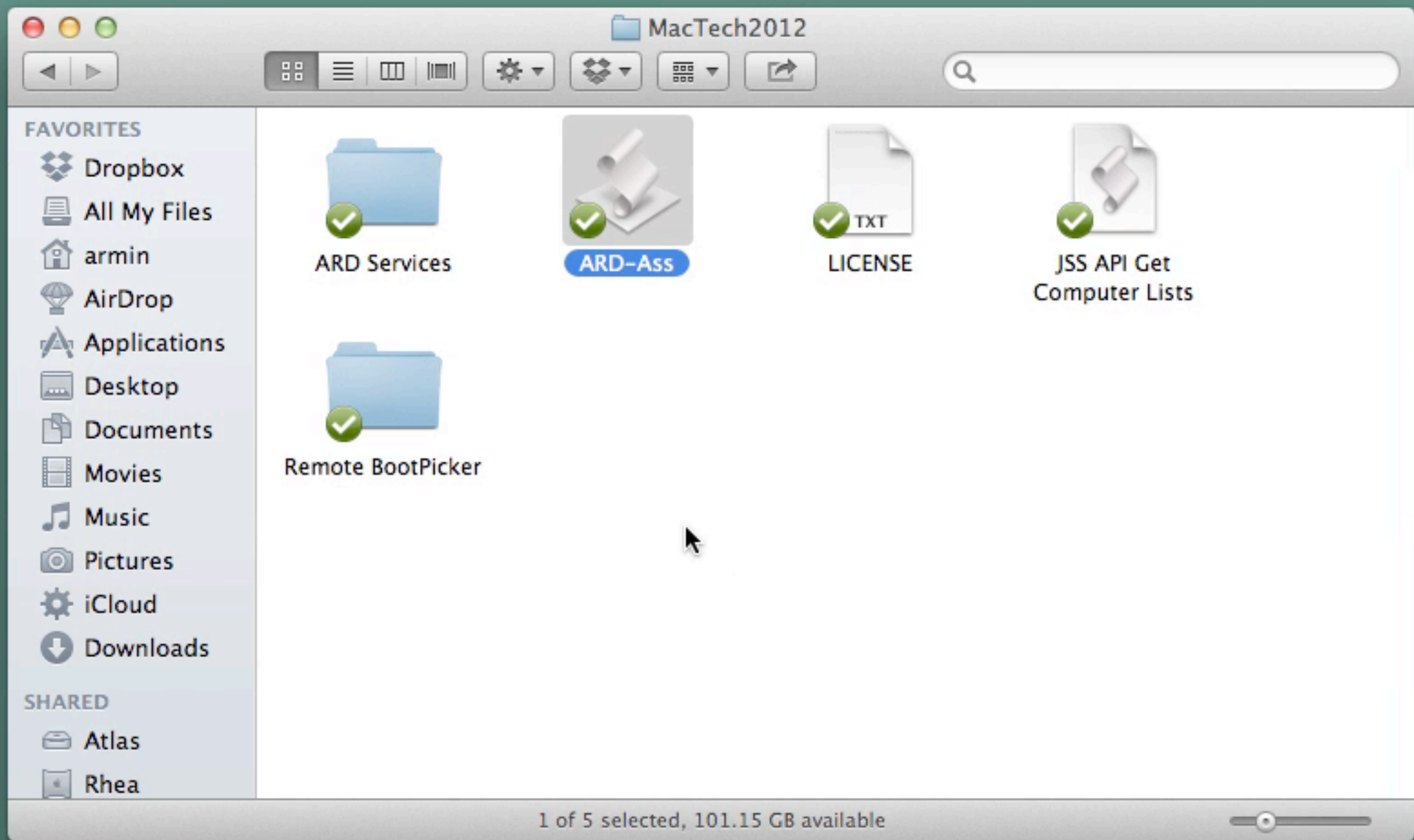
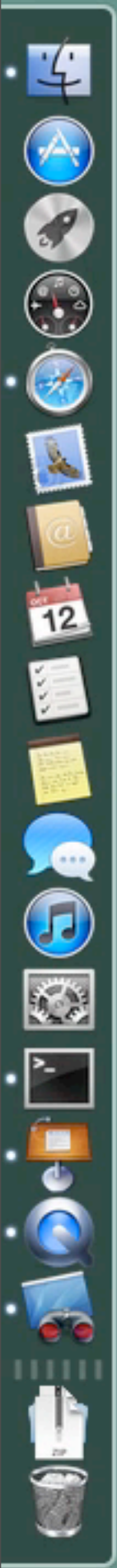


registers for `vnc://` URLs

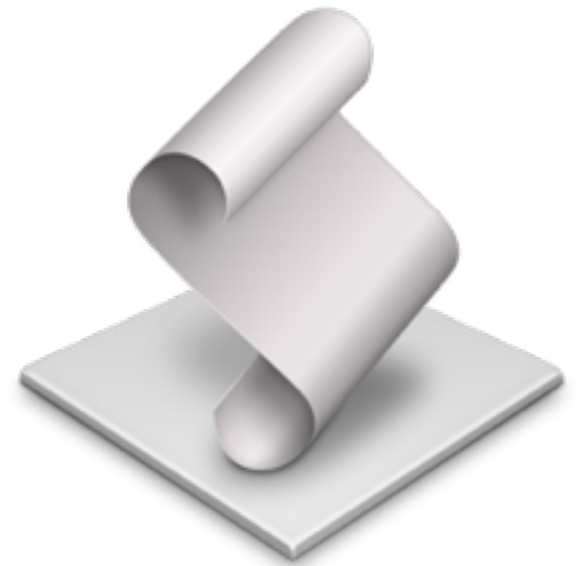
checks if URL is known in Remote Desktop

otherwise opens in Screen Sharing

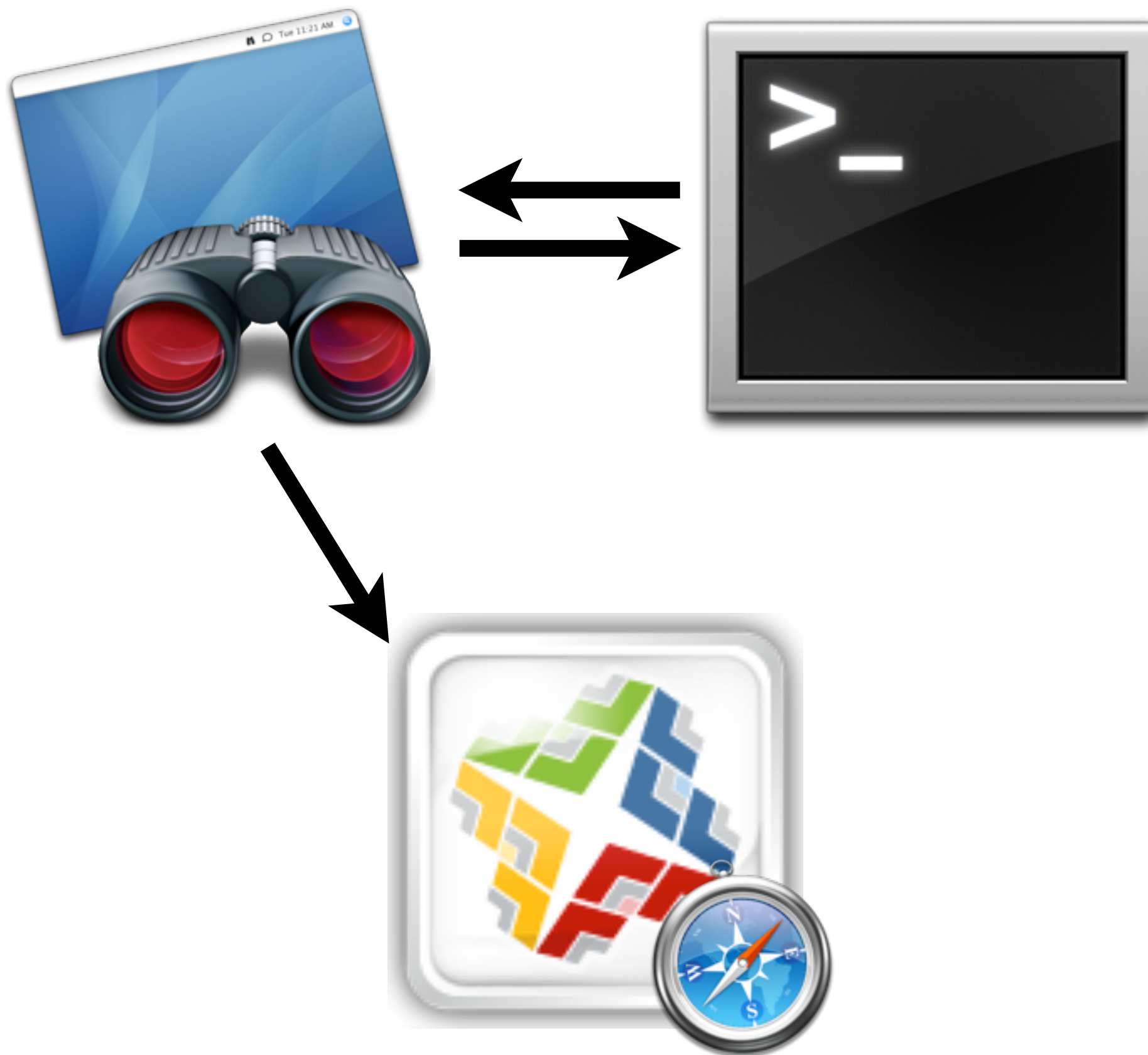
ARD—Assistant



ARD-Ass



- AppleScript Application bundle
 - `macosxautomation.com/
applescript/linktrigger/`
- `duti` CLI tool to change `vnc://` handler
 - `sourceforge.net/projects/duti/`



Computer Details > USC ITS > JSSv8.52

JSS

https://jss.usc.edu:8443/viewComputer.htm?computer_id=611

Reader

Computer Details > USC ITS > JSSv8.52

Inventory

Management

Logs

Settings

Search JSS Topics

Logout arminb

Details for cal-mini04

i

Computer Information

Hardware

Mac mini (Mid 2011)

Operating System

Mac OS X 10.7.4

Location

Purchasing

Extension Attributes

Storage

1 Hard Drive

Peripherals

0 Peripherals

Synced Mobile Devices

0 Mobile Devices

Computer Groups

7 Computer Groups

Licensed Software

0 Licensed Software Titles

Applications

323 Applications

i

Computer Information

Computer Name: cal-mini04

Report Date: 10/11/2012 at 10:52 AM

Last Contact Time: 10/12/2012 at 9:18 AM

IP Address:

/usr/sbin/jamf version: 8.52

MDM Managed: No

Managed: labadmin

JSS Computer ID: 611

Asset Tag:

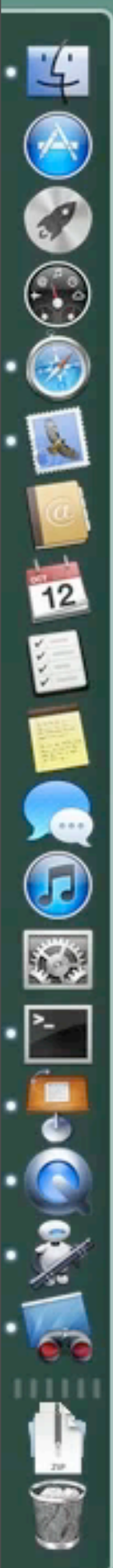
Bar Code 1:

Bar Code 2:

Open JSS Details



```
on run {input, parameters}
  tell application "Remote Desktop"
    repeat with theComputer in input
      set theName to name of theComputer
      tell application "System Events"
        set computerInfo to my XMLDataFor("computers/name/" & theName)
        set jssID to value of XML element "id" of XML element "general" of
          XML element "computer" of computerInfo
        open location ("https://jss.example.com:8443/viewComputer.html?
          computer_id=" & jssID)
      end tell
    end repeat
  end tell
  return input
end run
```



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Copy Items

Restart Comp...

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Copy Items

Copy Items

Install Packages

Send UNIX Co...

Send UNIX Co...

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Copy Items

Name	Current Status	IP Address	Current Application	ARD Version
cal-imac04	Idle (24m)	-----	Login Window	3.5.3
cal-imac05	Idle (26h 14m)		Login Window	3.6
cal-mbp02	Available		Login Window	3.5.3
cal-mini03	Idle (30m)		Login Window	3.5.3
cal-mini04	ARD Not Active		-	3.5.3

5 computers

1 selected



RESTful API

XML or JSON

access to *most* of JSS data



MacTech2012

FAVORITES

Dropbox

All My Files

armin

AirDrop

Applications

Desktop

Documents

Movies

Music

Pictures

iCloud

Downloads

SHARED

Atlas

Rhea

ARD Services

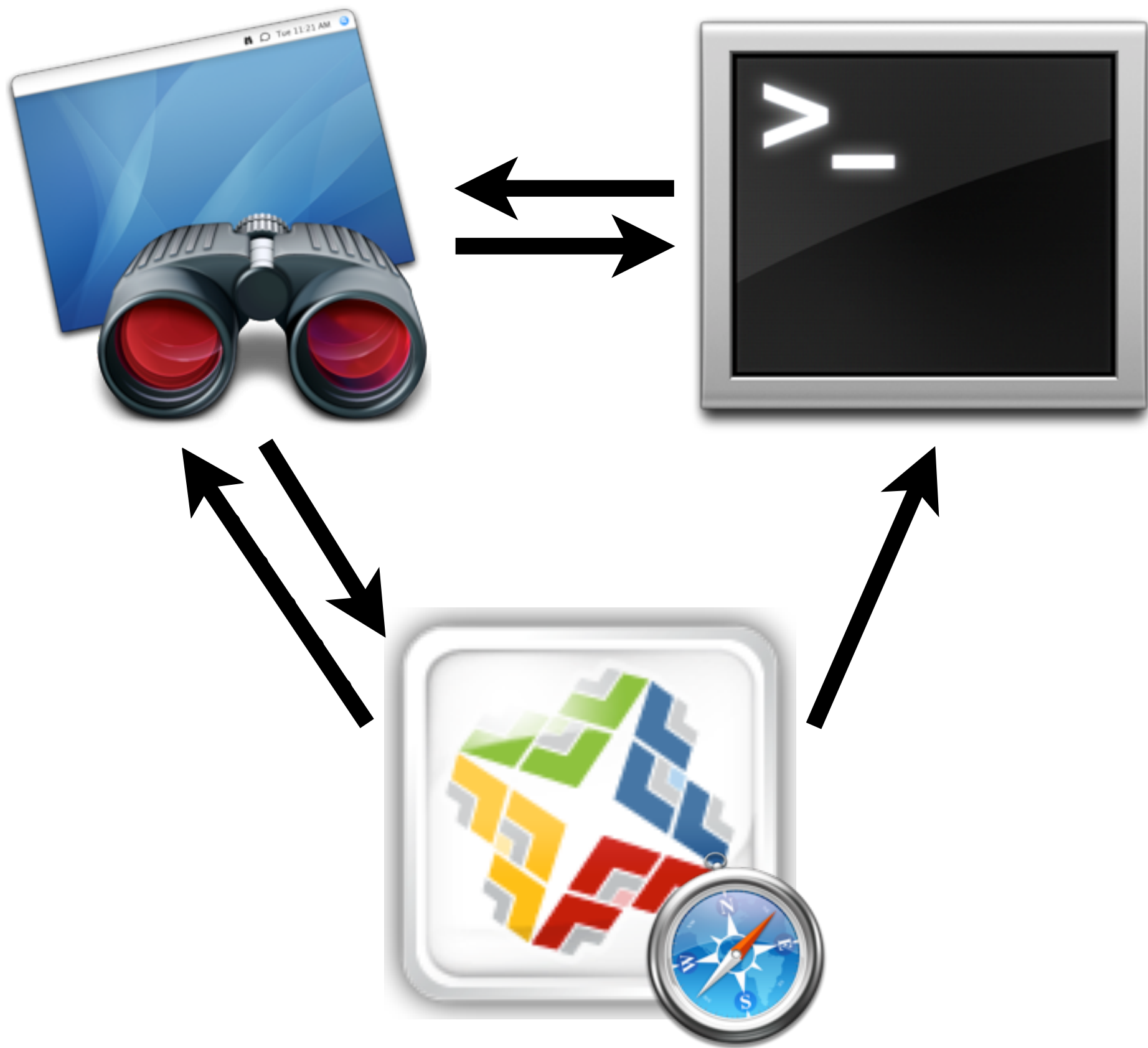
ARD-Ass


LICENSE


JSS API Get Computer Lists

Remote BootPicker










1 of 5 selected, 101.11 GB available



 **Inventory** **Management** **Logs** **Settings**

 Logout arminb

9 Results

	Computer Name	Last Time	Managed	Department	Building	OS				
	cal-imac04	10/12/2012 at 9:29 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-imac05	10/12/2012 at 9:36 AM	labadmin	ITS	CAL	Mac OS X 10.8	Details	Logs	Autorun	Delete
	cal-imac06	09/26/2012 at 1:21 PM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-macpro1	03/01/2012 at 9:20 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-mbp01	08/17/2012 at 12:34 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-mbp02	10/12/2012 at 9:26 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mbp03	10/03/2012 at 1:42 PM	labadmin	ITS	CAL	Mac OS X 10.8.2	Details	Logs	Autorun	Delete
	cal-mini03	10/12/2012 at 9:23 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mini04	10/12/2012 at 9:37 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete

View Results As: Take Action on Results:

ARD-Casper- Konnektion-Assistant

ACK-Ass



```
javascript:for(var%20i=1,r;
%20r=document.getElementsByClassName
("objectList")[0].rows[i];%20i++)
{%20c=r.cells[0];ip=c.getAttribute
("bt-xtitle").match(/(?:\d{1,3}\.
{3}\d{1,3}/);%20c.innerHTML%20=%20"<a
%20href=\"ssh://labadmin@\"+ip
+\"\">SSH</a>%20|\"%20<a%20href=
\"vnc://\"+ip+\"\">VNC</a>%20|\"%20<a
%20href=\"rdp://\"+ip+\"\">RDP</a>\"%20}
```

ACK-Ass



```
javascript:
for(var i=1,r; r=document.getElementsByClassName("objectList")[0].rows[i]; i++)
{
    c=r.cells[0];
    ip=c.getAttribute("bt-xtitle").match(/(?:\d{1,3}\.){3}\d{1,3}/);
    c.innerHTML = <a href=\ ssh://labadmin@ +ip+ \ >SSH</a> | <a href=
\"vnc://\"+ip+\">VNC</a> | <a href=\"rdp://\"+ip+\">RDP</a>
}
```


jss.usc.edu:8443/viewComputerGroupMembers.html?computer_group_

Search

Computer Search Results > USC ITS > JSSv8.52



Inventory

Management

Logs

Settings

Search JSS Topics

Logout arminb

9 Results

	Computer Name	Last Time	Managed	Department	Building	OS				
	cal-mbp01	08/17/2012 at 12:34 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-mini04	09/25/2012 at 11:37 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mbp03	10/03/2012 at 1:42 PM	labadmin	ITS	CAL	Mac OS X 10.8.2	Details	Logs	Autorun	Delete
	cal-mini03	10/08/2012 at 2:36 PM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-imac05	10/08/2012 at 2:32 PM	labadmin	ITS	CAL	Mac OS X 10.8	Details	Logs	Autorun	Delete
	cal-imac04	10/08/2012 at 2:43 PM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-imac06	09/26/2012 at 1:21 PM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mbp02	10/08/2012 at 2:13 PM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-macpro1	03/01/2012 at 9:20 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete

View Results As: Choose...

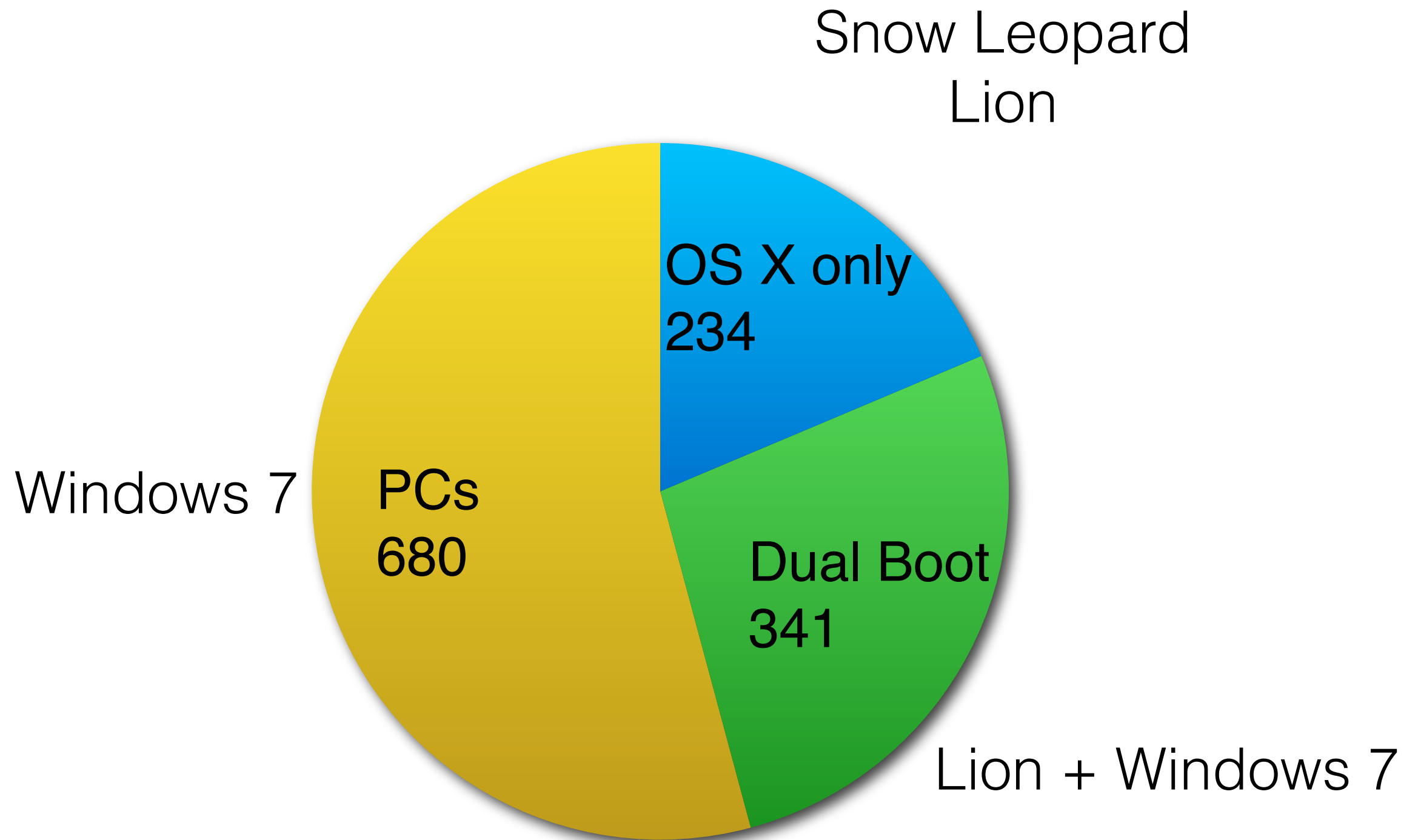
Go

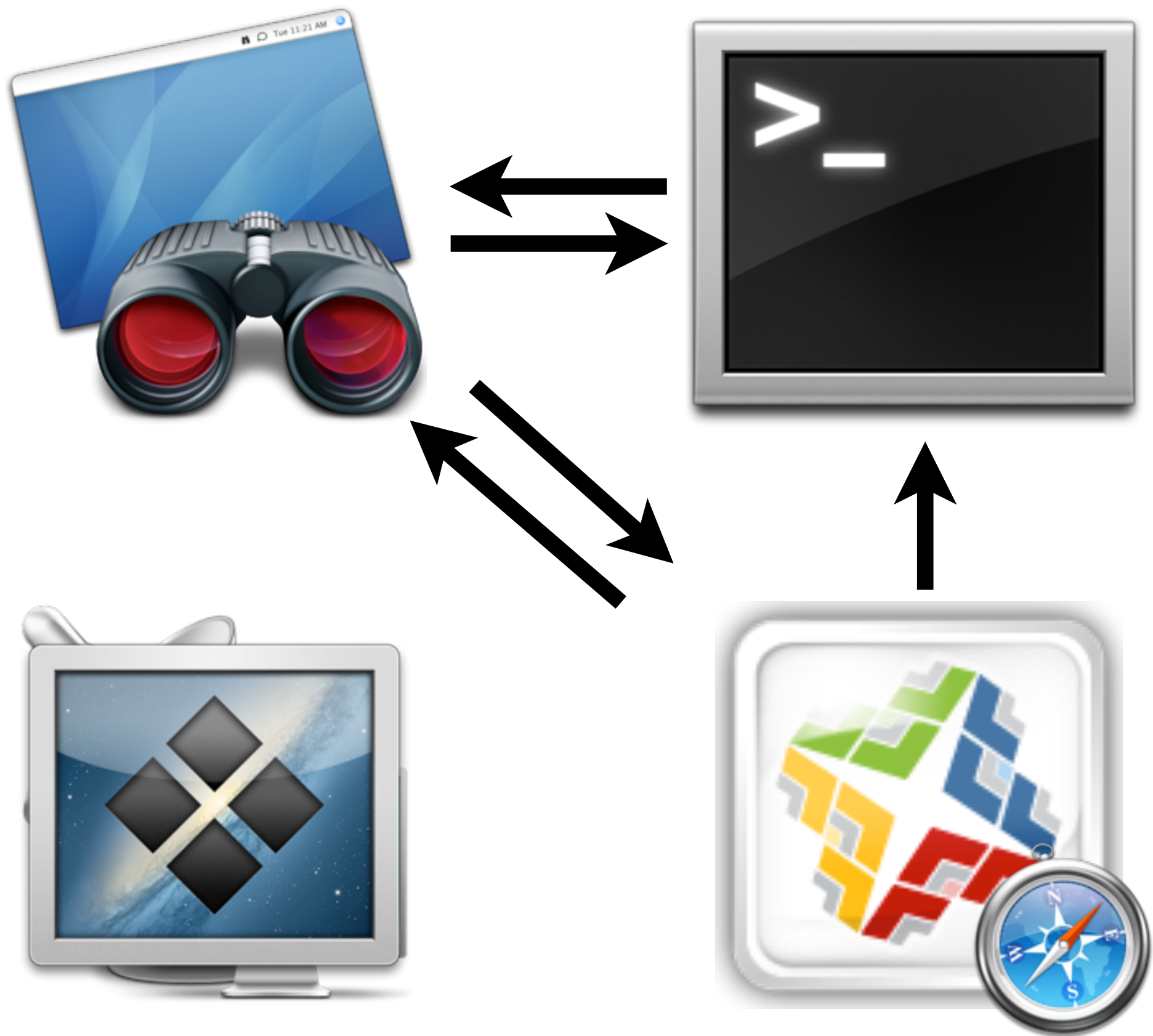
Take Action on Results: Choose...

Go

Wait a second?

RDP?



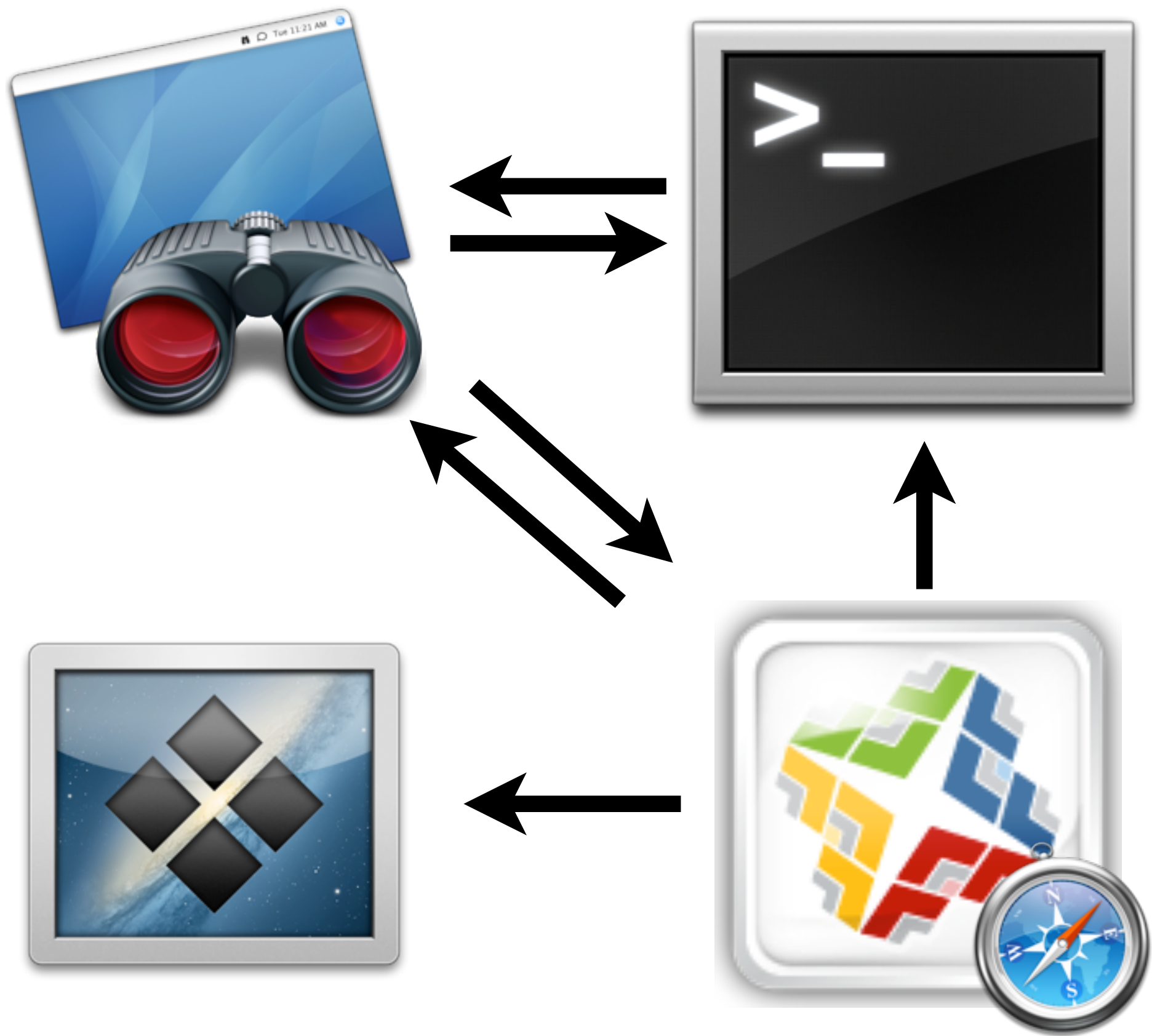



CoRD


`cord.sourceforge.net`

`>open rdp://hostname`














 [Inventory](#) [Management](#) [Logs](#) [Settings](#)

 Logout arminb

9 Results

	Computer Name	Last Time	Managed	Department	Building	OS				
	cal-imac04	10/12/2012 at 10:29 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-imac05	10/12/2012 at 10:30 AM	labadmin	ITS	CAL	Mac OS X 10.8	Details	Logs	Autorun	Delete
	cal-imac06	09/26/2012 at 1:21 PM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-macpro1	03/01/2012 at 9:20 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-mbp01	08/17/2012 at 12:34 AM	labadmin	ITS	CAL	Mac OS X 10.6.8	Details	Logs	Autorun	Delete
	cal-mbp02	10/12/2012 at 10:28 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mbp03	10/03/2012 at 1:42 PM	labadmin	ITS	CAL	Mac OS X 10.8.2	Details	Logs	Autorun	Delete
	cal-mini03	10/12/2012 at 10:24 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete
	cal-mini04	10/12/2012 at 10:16 AM	labadmin	ITS	CAL	Mac OS X 10.7.4	Details	Logs	Autorun	Delete

View Results As: Take Action on Results:



Login to Windows



Reboot to Mac OS X

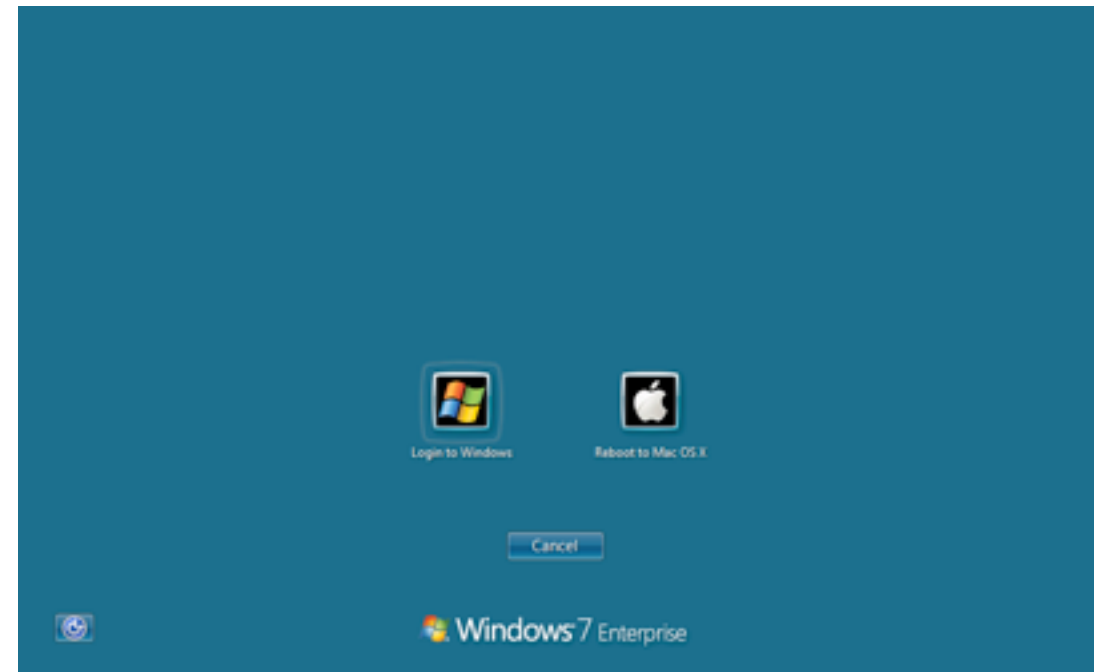
Cancel

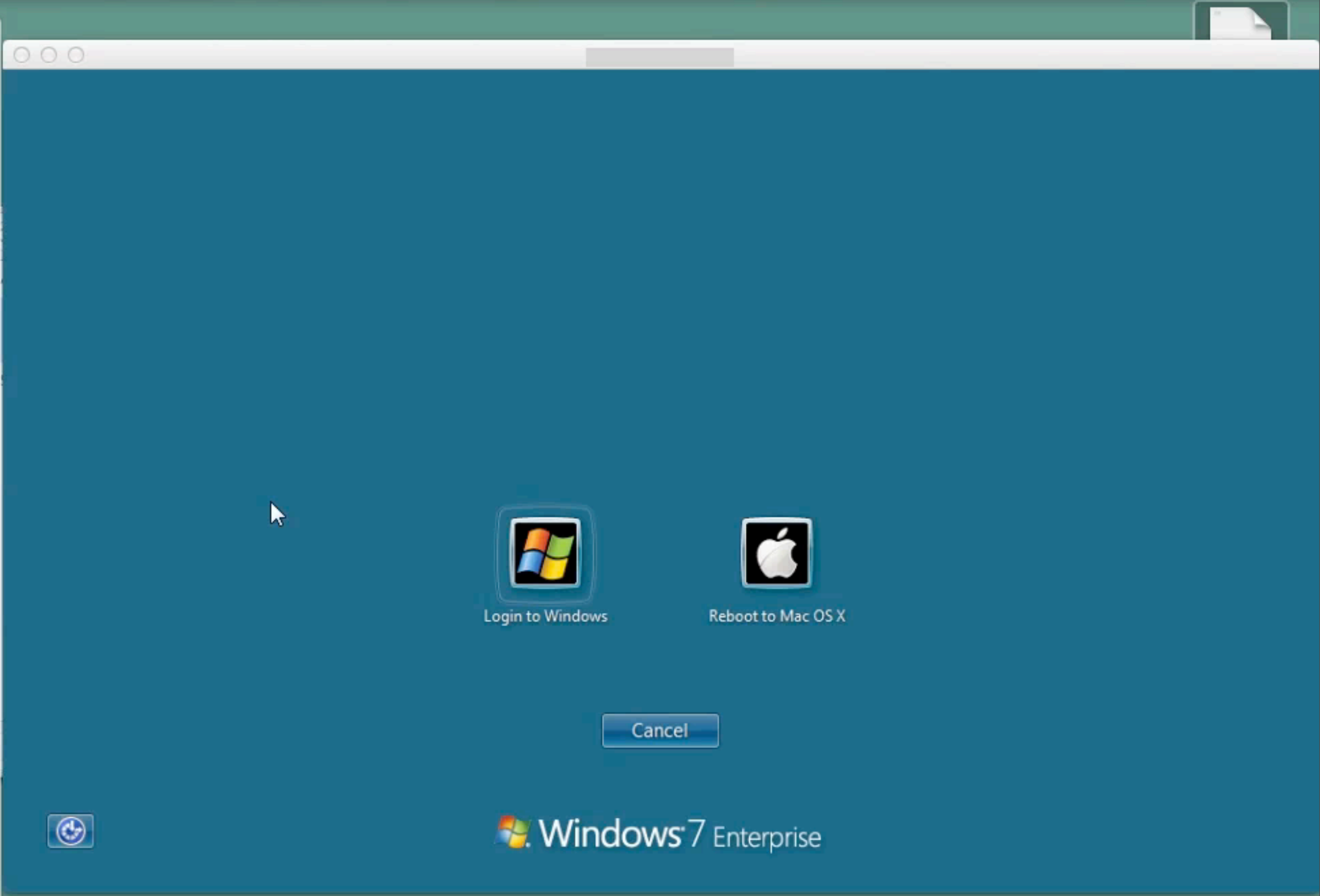
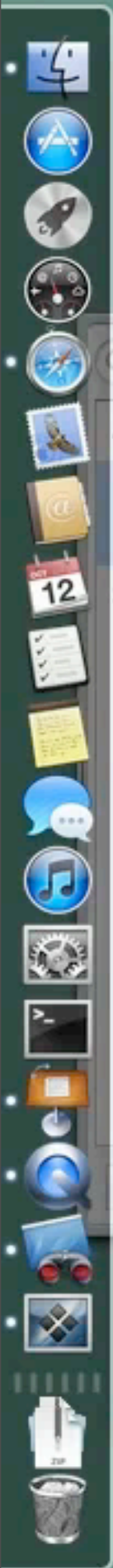


 Windows 7 Enterprise

BootPicker for Windows

- by colleague Ryan Bolger
- `github.com/rmbolger/bootpickerforwindows`
- credential provider that offers an option to boot to OS X





Boot Selector for OS X

- RIP Bombich's BootPicker
- local user named `windows`
- loginhook uses `bless` and `reboot`



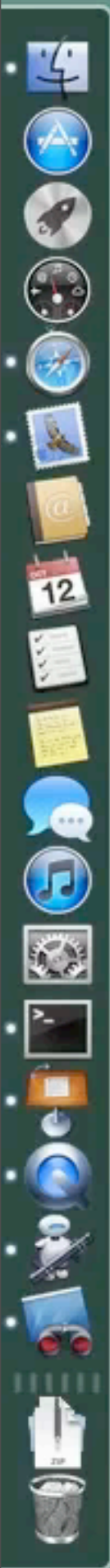
Boot Runner

[twocanoes.com/
boot-runner](http://twocanoes.com/boot-runner)



Remote Boot Picker

- background daemon
- Windows and OS X (python) version
- listens for RESTful http requests
- returns basic system info in JSON
- will switch boot volume and reboot on demand



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Copy Items

Copy Items

Copy Items

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Copy Items

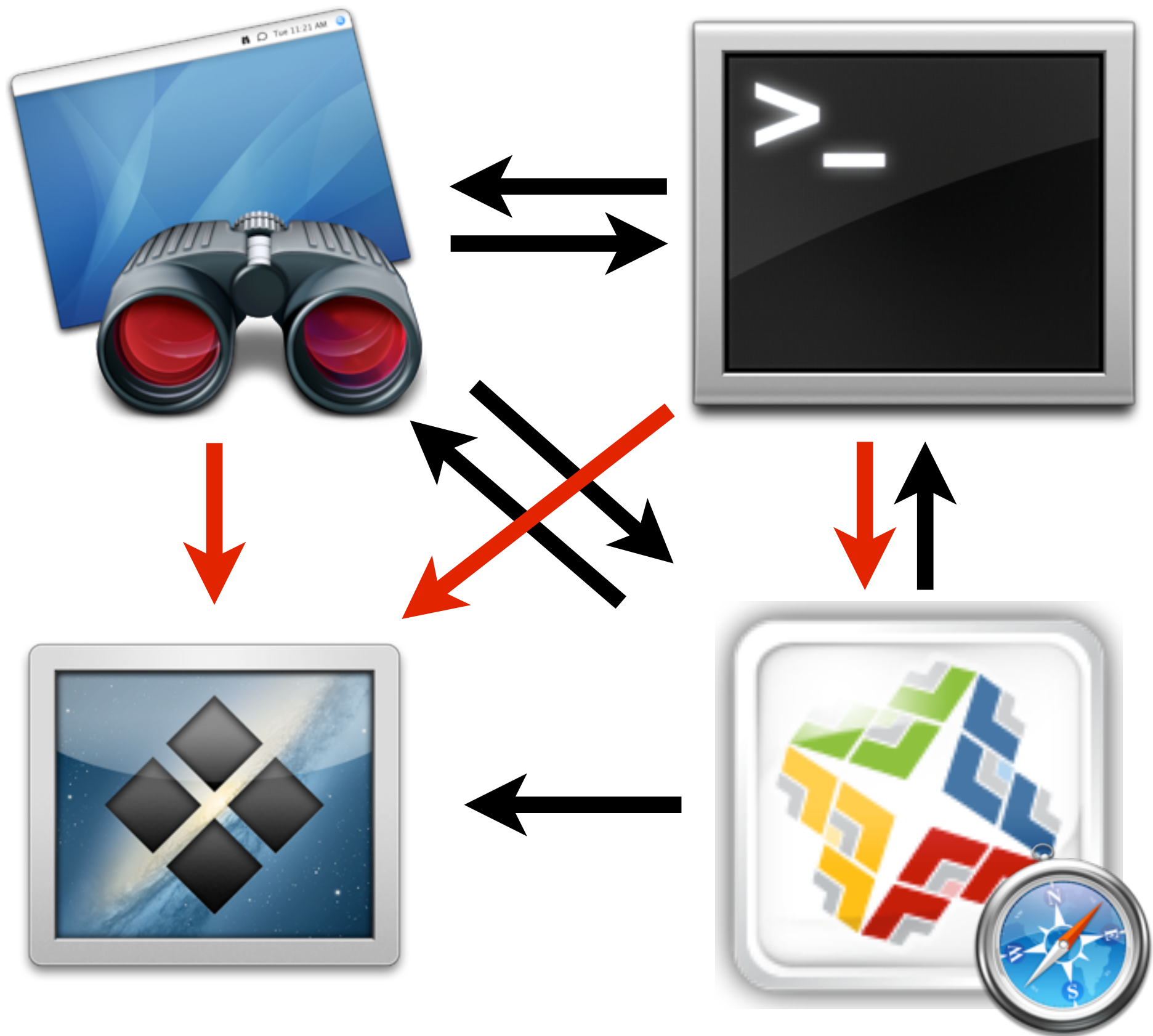
Name	Current Status	IP Address	Current Application	ARD Version
cal-imac04	Idle (19m)		Login Window	3.5.3
cal-imac05	Idle (26h 10m)		Login Window	3.6
cal-mbp02	Available		Login Window	3.5.3
cal-mini03	Idle (25m)		Login Window	3.5.3
cal-mini04	ARD Not Active		-	3.5.3

5 computers

1 selected

Remote BootPicker

- python script listening for http requests
- login window script to switch boot volume
- Automator Service in ARD
- html page (jQuery) for popup interface
- Future: integrate in ACK-Ass and ARD-Ass



Fill your Toolbox



AppleScript



shell
osascript
Perl
Python
regex
etc.



AppleScript
Shell



JavaScript
HTML 5
jQuery
JSON
XML

Thank You!

scriptingosx.com/mactech2012