



**honeyapps**  
Inc

**The Search For Intelligent Life**  
**OWASP Philadelphia**



Or.....

# The 4 Stages of Security Intelligence





# Nice To Meet You

## About Me

CoFounder HoneyApps

Former CISO Orbitz

Contributing Author  
*Beautiful Security*

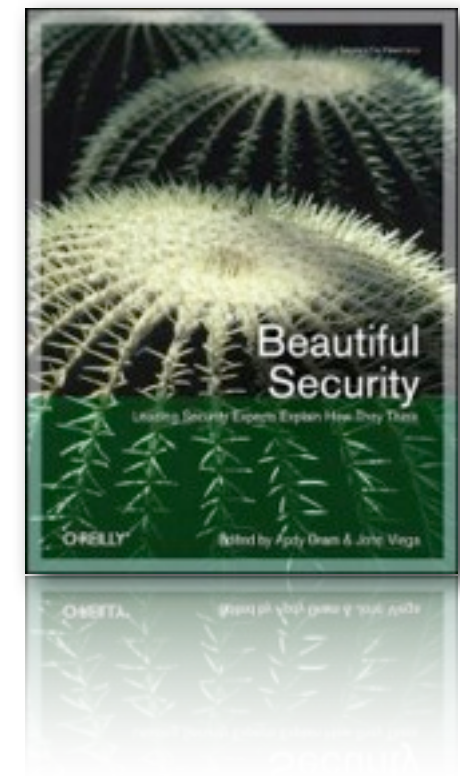
CSO Magazine/Online Author

## HoneyApps

Vulnerability Management as a Service

16 Hot Startups - eWeek

3 Startups to Watch - Information Week



# Stage I: Ignorance is Bliss







## Stage 2: Where are all of my vulnerabilities?

Back in my Yahoo days I performed hundreds of web application vulnerability assessments. To streamline the workload, I created an assessment methodology consisting of a few thousand security tests averaging 40 hours to complete per website. Yahoo had over 600 websites enterprise-wide. To assess the security of every website would have taken over 11 years to complete and the other challenge was these websites would change all the time which decayed the value of my reports.

**Jeremiah Grossman**  
Founder, WhiteHat Security



## Stage 3: Scan & Dump or...

“thanks for the 1000 page report,  
now what?!”





## Why This Occurs

**Lack of Communication**

**Lack of Data**

**Lack of Coordination**

**Silos, Silos, Everywhere**



# Stage 4: A New Beginning

Or.....

Using What You Already Have.





# Vulnerability Management: A Case Study

## Building the Warehouse

### WebApp Vulnerability

Type: XSS

Severity

Threat

Subtype: (persistent, reflected, etc)

Asset URL/URI

Confirmed?

Dates Found/Opened

Dates Closed

Description

Attack Parameters



# Vulnerability Management: A Case Study

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Attack Parameters

### Asset:URL

Platform / Code

Web Server Version

Application Server Version

Database Version



# Vulnerability Management: A Case Study

## Building the Warehouse

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Type: XSS  
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Confirmed?  
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Attack Parameters

### Asset:URL

Platform / Code  
Web Server Version  
Application Server Version  
Database Version

### Asset:Host

Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports





# Vulnerability Management: A Case Study

## WebAsset:URL

Type: XSS  
Severity  
Threat  
Subtype: Platform / Code  
Web Server Version  
Application Server Version  
Database Version

Asset URL / ID

Confirm

Dates

Dates

Description

Attack

## Asset:Host

Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports



# Vulnerability Management: A Case Study

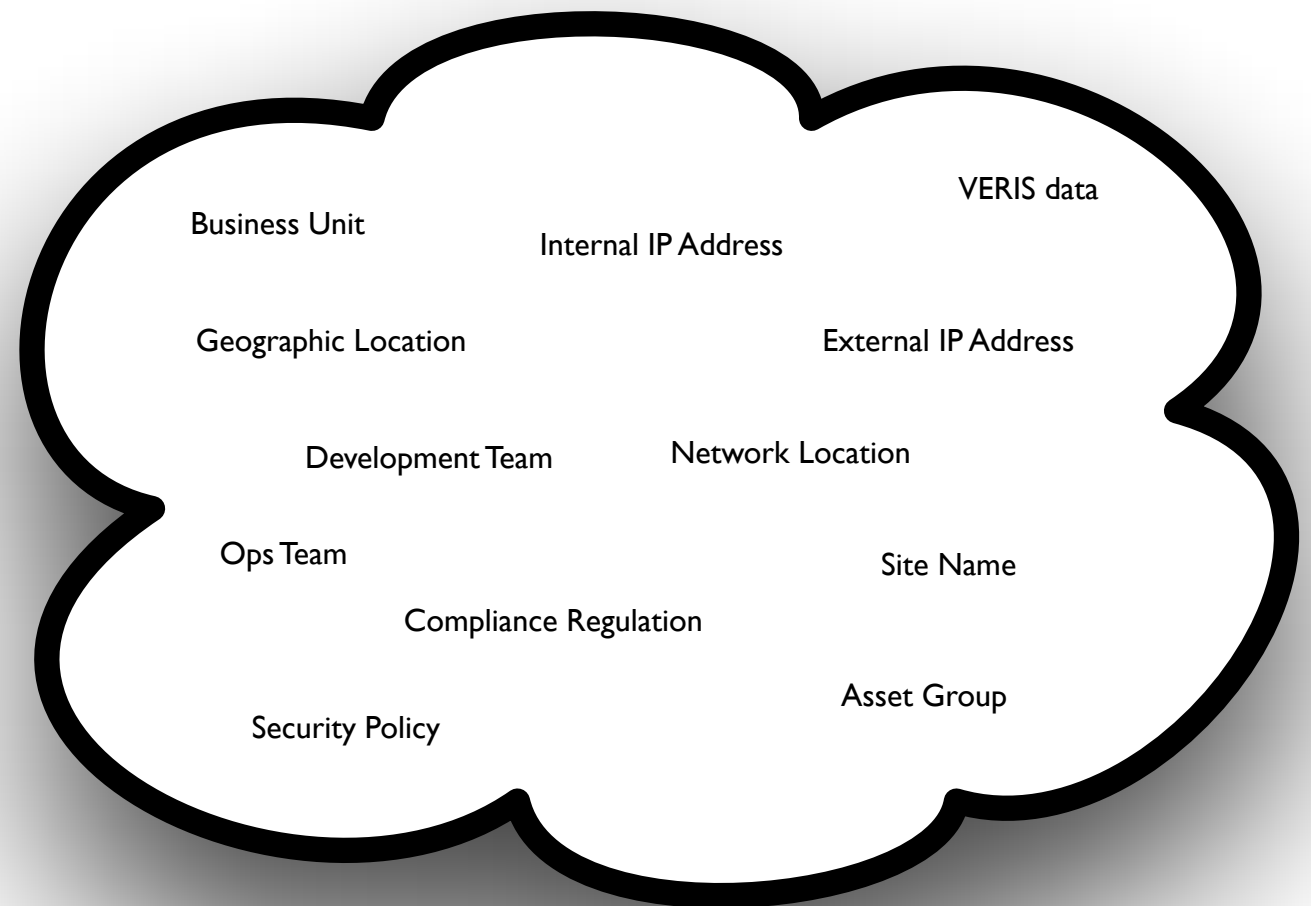
## Meta Data

### Web Asset:URL

Type: XSS  
Severity  
Threat  
Subtype:  
Asset URL / ID  
Platform / Code  
Web Server Version  
Application Server Version  
Database Version

### Asset:Host

Confirm  
Dates  
Dates  
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Attack  
Host Operating System  
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# Vulnerability Management: A Case Study

## WebAsset:URL

Type: XSS Platform / Code  
Severity Web Server Version  
Threat Application Server Version  
Subtype: Database Version

Asset URL / ID

Confir

Dates

Dates

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## Asset:Host

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Other Applications/Versions  
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# Vulnerability Management: A Case Study

## Web Asset:URL

Type: XSS  
Severity  
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Asset URL / ID  
Platform / Code  
Web Server Version  
Application Server Version  
Database Version

## Asset:Host

Confirmed  
Dates  
Dates  
Description  
Attack  
Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports

Apply Internal Threat Data

Firewall

Application

IDS/IPS

WAF



# Vulnerability Management: A Case Study

## WebAsset:URL

Type: XSS  
Severity  
Threat  
Subtype: Platform / Code  
Web Server Version  
Application Server Version  
Database Version

Asset URL / ID

Confirm

Dates

Dates

Description

Attack

## Asset:Host

Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports

# Vulnerability Management: A Case Study

## Apply External Threat Data

### WebAsset:URL

Type: XSS  
Severity  
Threat  
Subtype:  
Asset URL / ID  
Confirm  
Dates  
Dates  
Description  
Attack

Platform / Code  
Web Server Version  
Application Server Version  
Database Version

### Asset:Host

Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports





# Vulnerability Management: A Case Study

## Apply External Threat Data

### WebAsset:URL

Type: XSS  
Severity  
Threat  
Subtype:  
Asset URL / ID

Platform / Code  
Web Server Version  
Application Server Version  
Database Version

### Asset:Host

Confirmed  
Dates  
Dates  
Description  
Attack

Host Operating System  
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Mac Address  
Open Services/Ports

### Example Data Sources

- ❖ DataLossDB
- ❖ Verizon DBIR
- ❖ Trustwave Global Security Report
- ❖ FS-ISAC
- ❖ SANS ISC
- ❖ Symantec DeepSight
- ❖ IBM XForce

# Vulnerability Management: A Case Study

## WebAsset:URL

Type: XSS  
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Threat  
Subtype: (Platform / Code  
Web Server Version  
Application Server Version  
Database Version

Asset URL / ID

Confirm

Dates

Dates

Descri

Attack

## Asset:Host

Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports

# Vulnerability Management: A Case Study

## Web Assets

Type: XSS  
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Threat  
Subtype: (Platform / Code  
Asset URL / ID Web Server Version  
Application Server Version  
Database Version

## Asset: Host

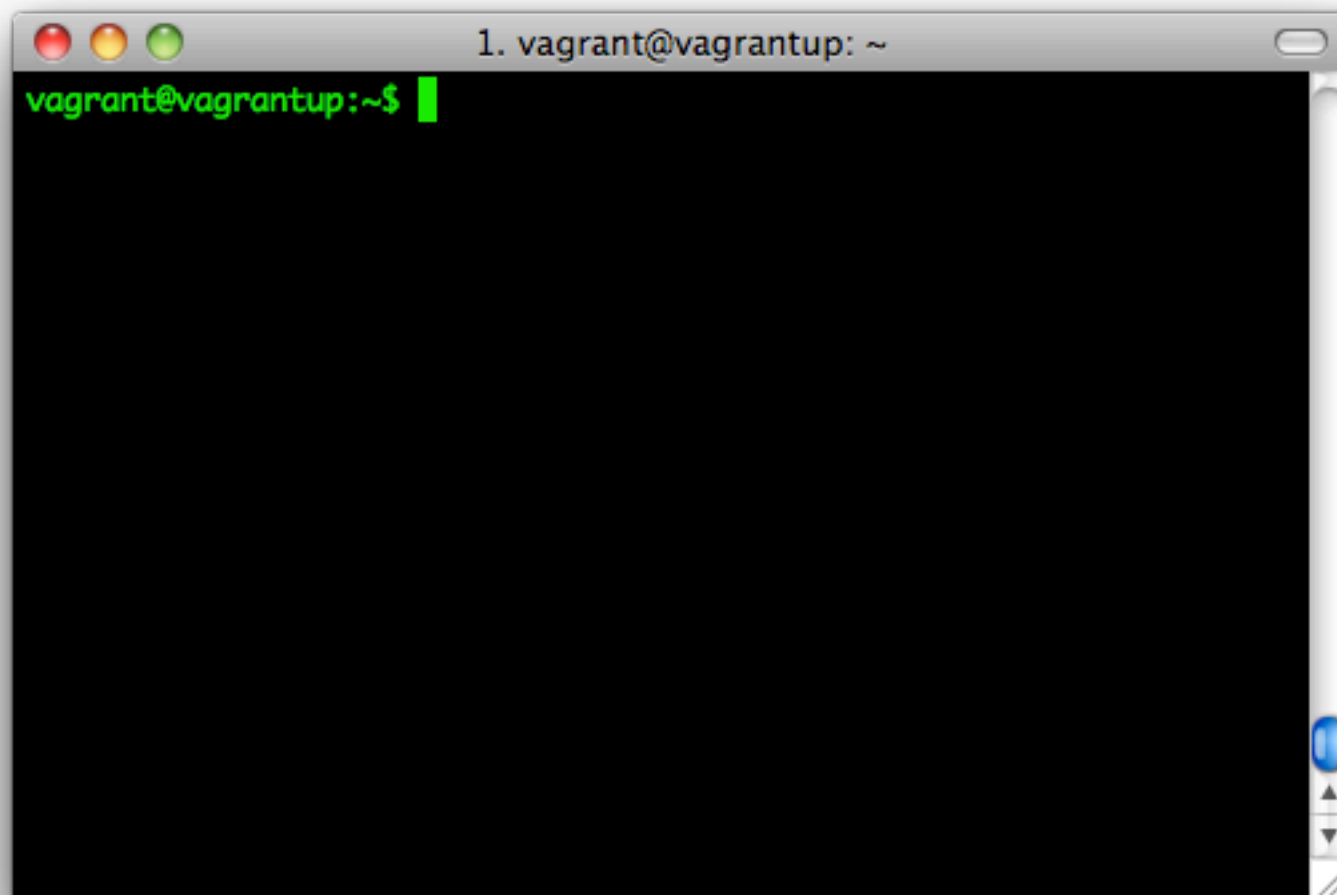
Confirmed  
Dates  
Dates  
Description  
Attack  
Host Operating System  
Other Applications/Versions  
IP Addresses  
Mac Address  
Open Services/Ports

- ☑ Remediation Statistics
- ☑ Internal Bug Tracking Reports
- ☑ Denim Group Remediation Study
- ☑ Build and Development Process



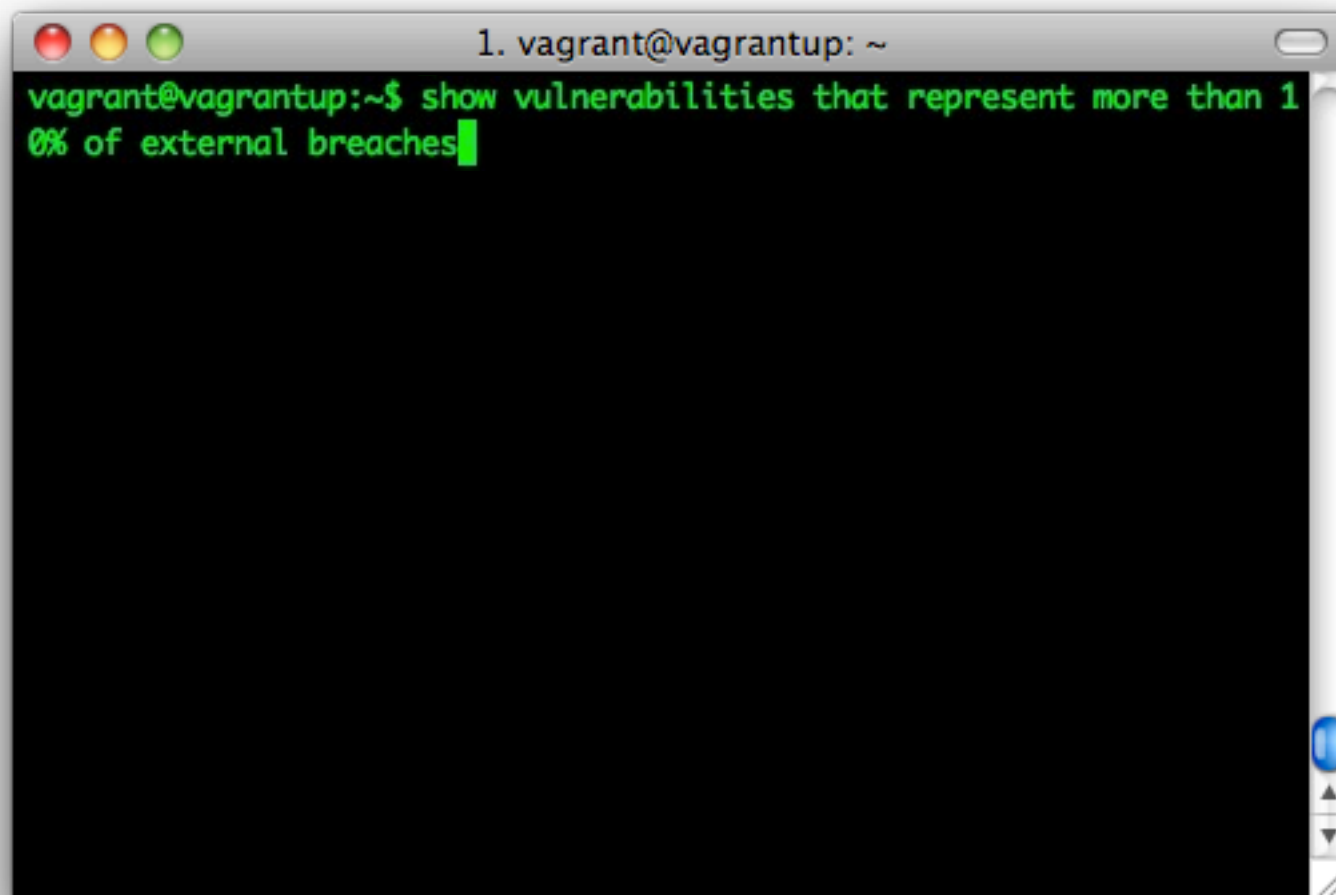
# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information




```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ show vulnerabilities that represent more than 1  
0% of external breaches
```



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information



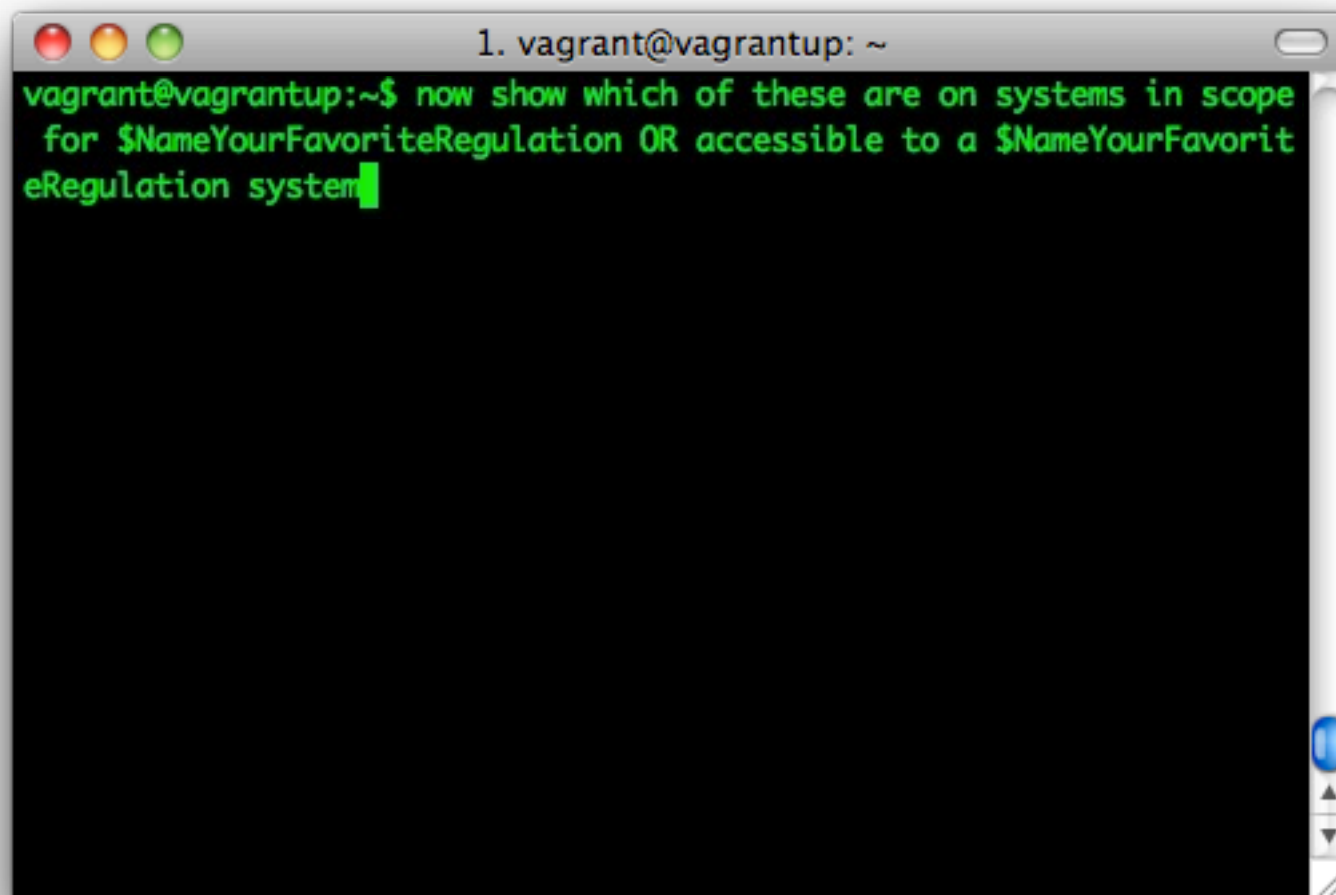
```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ now show which of these represent > 10% of our  
malicious traffic
```





# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information

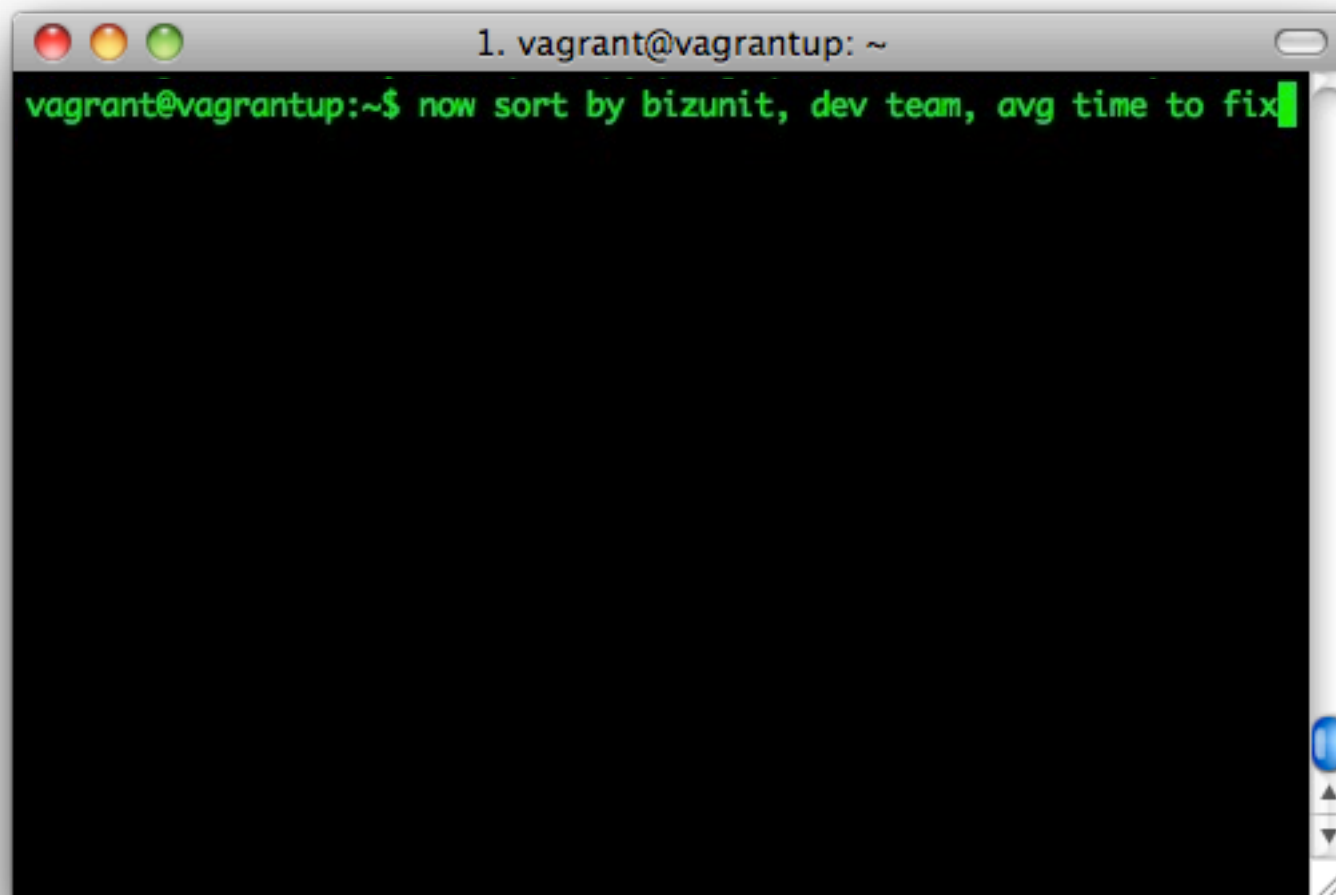


```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ now show which of these are on systems in scope  
for $NameYourFavoriteRegulation OR accessible to a $NameYourFavorit  
eRegulation system
```



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information

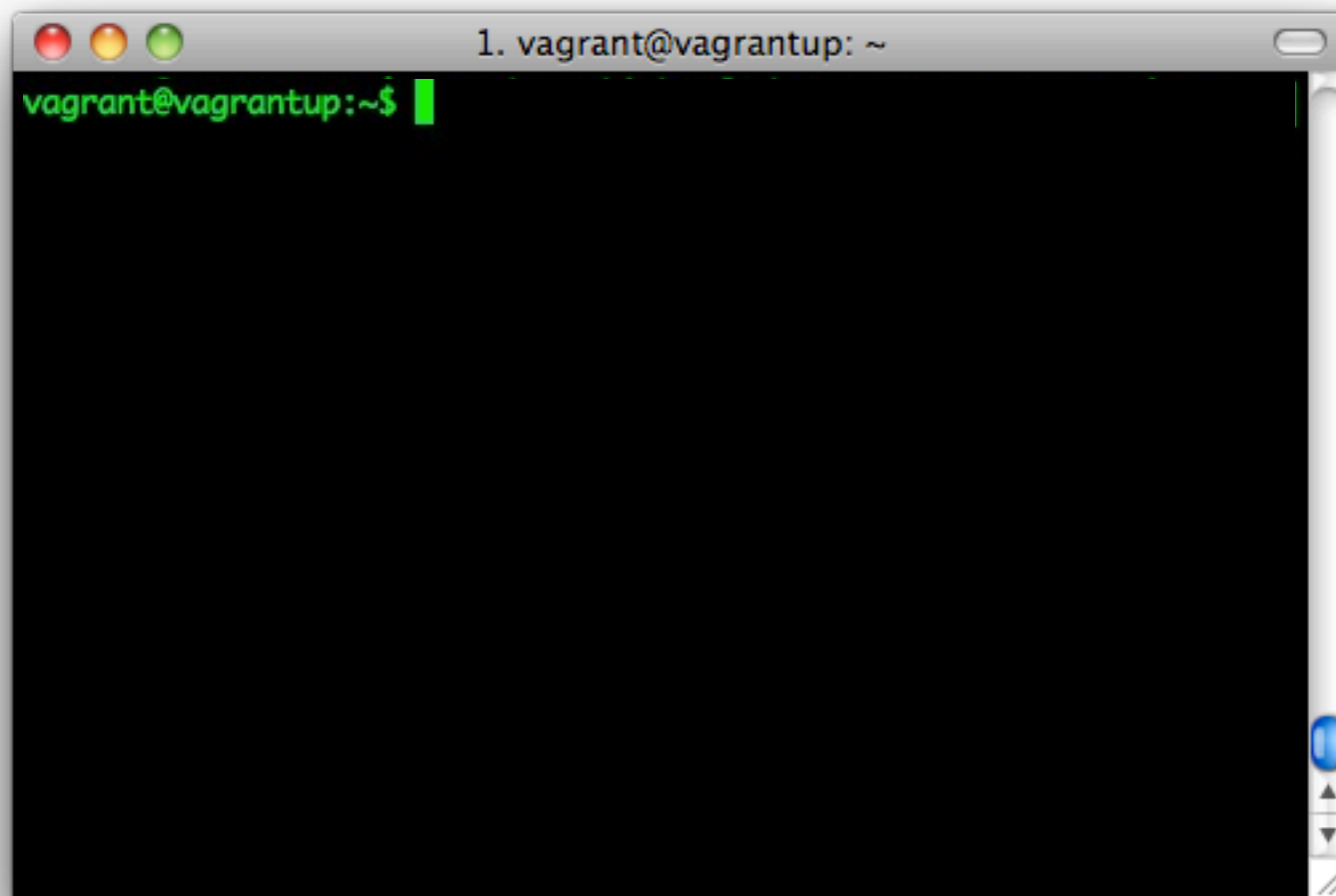


```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ now sort by bizunit, dev team, avg time to fix
```



# Data Lenses: Views into the Warehouse

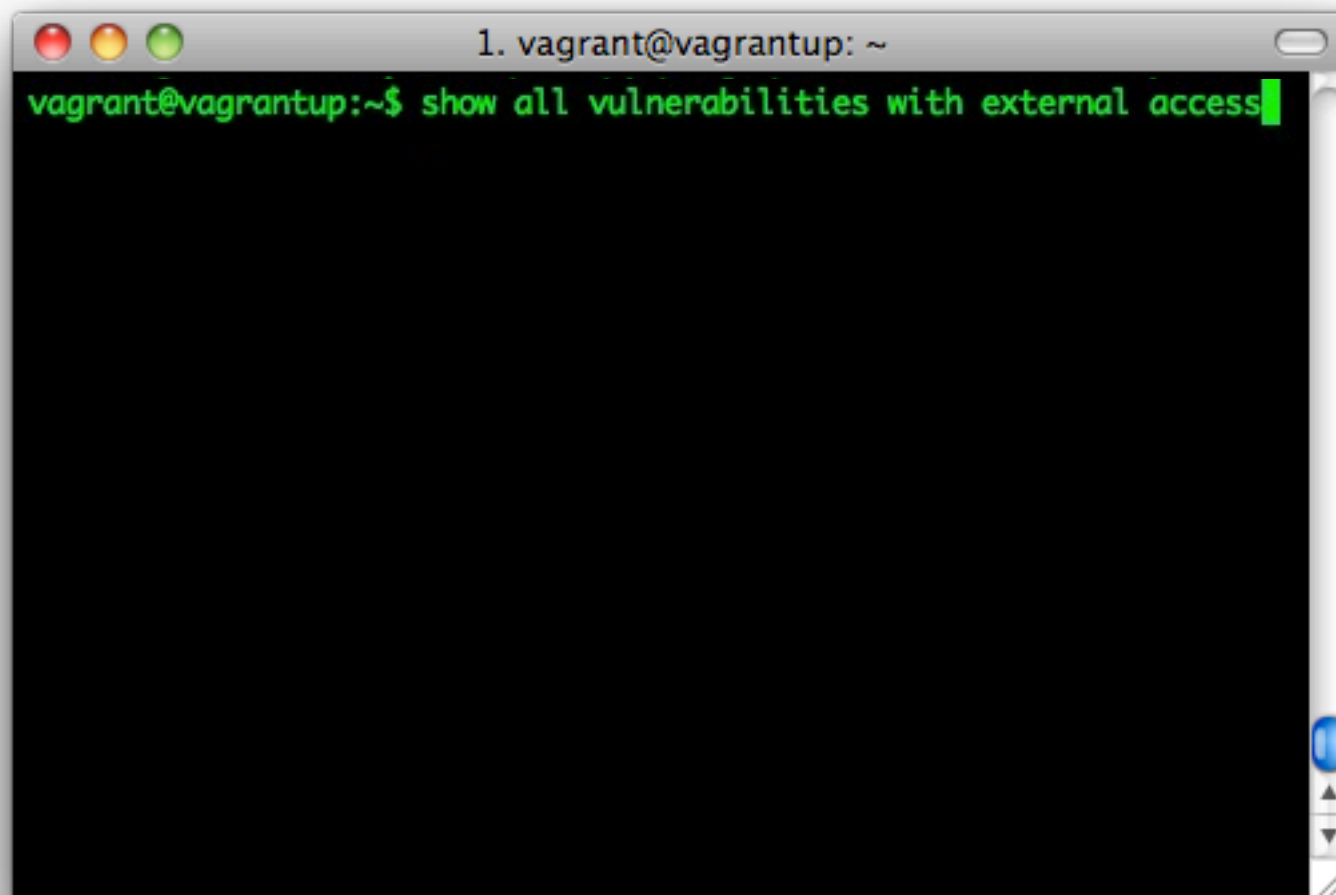
- Applying Filters To Glean Information





# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information

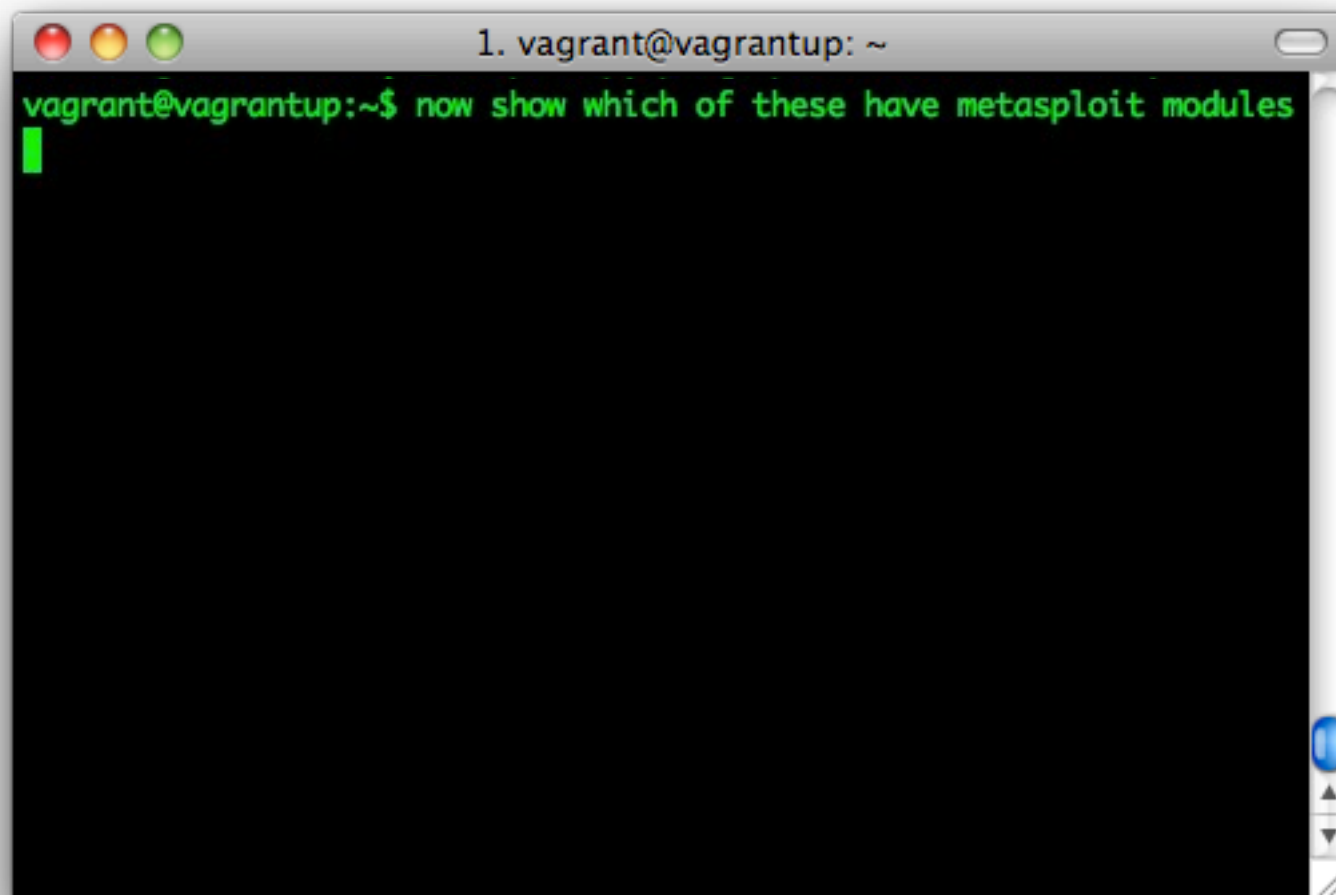


```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ show all vulnerabilities with external access
```



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information

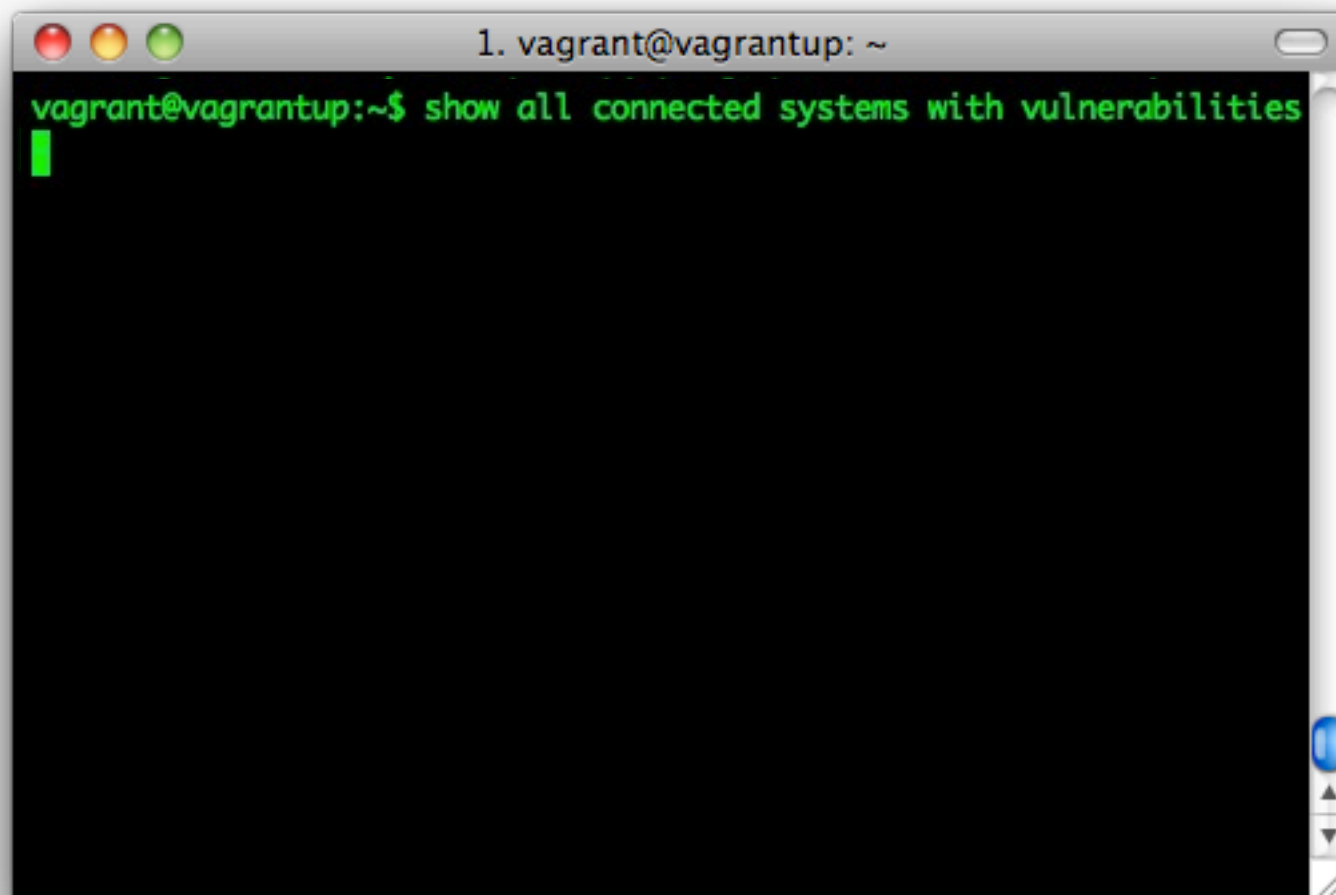


```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ now show which of these have metasploit modules  
█
```



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information



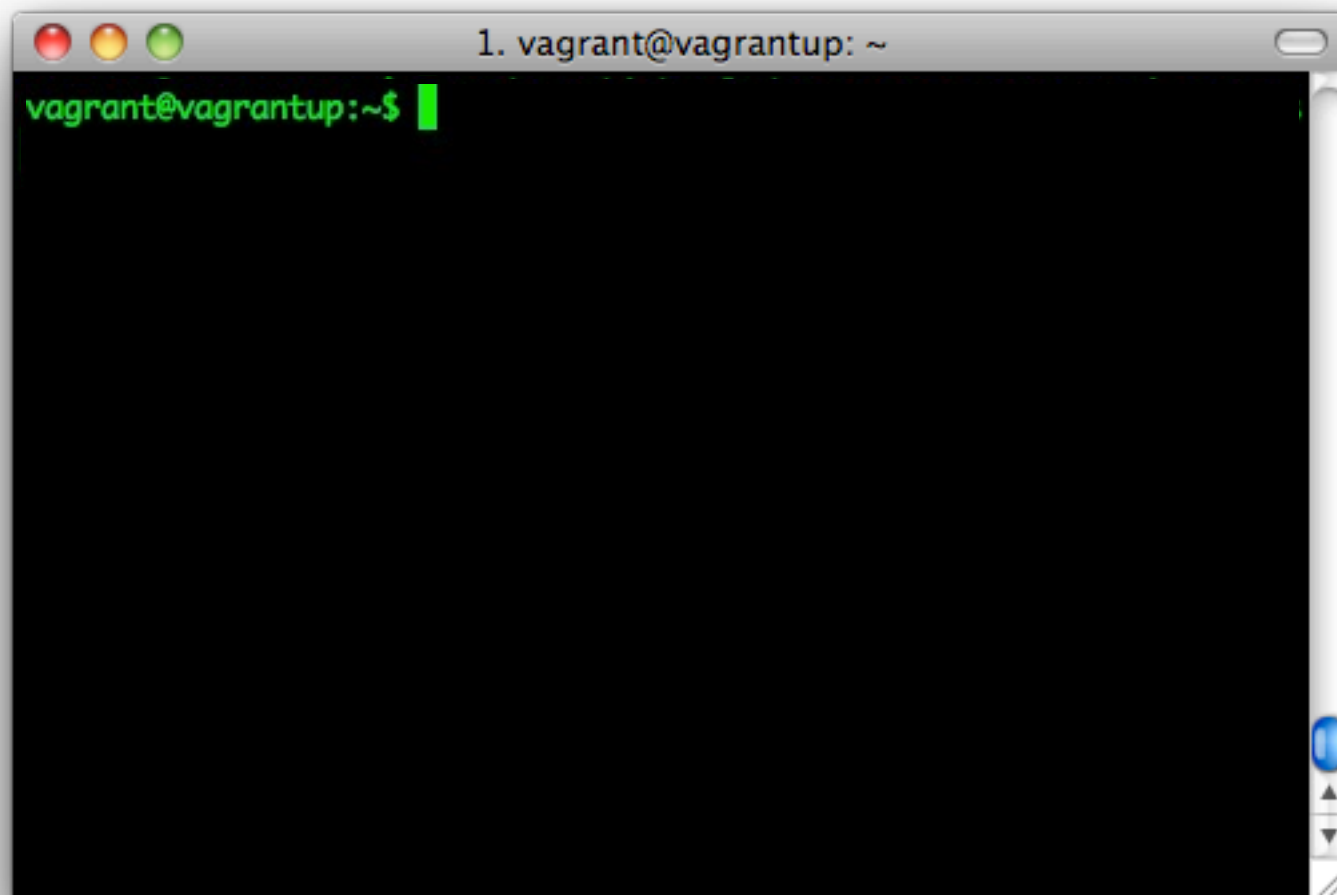
```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ show all connected systems with vulnerabilities  
█
```





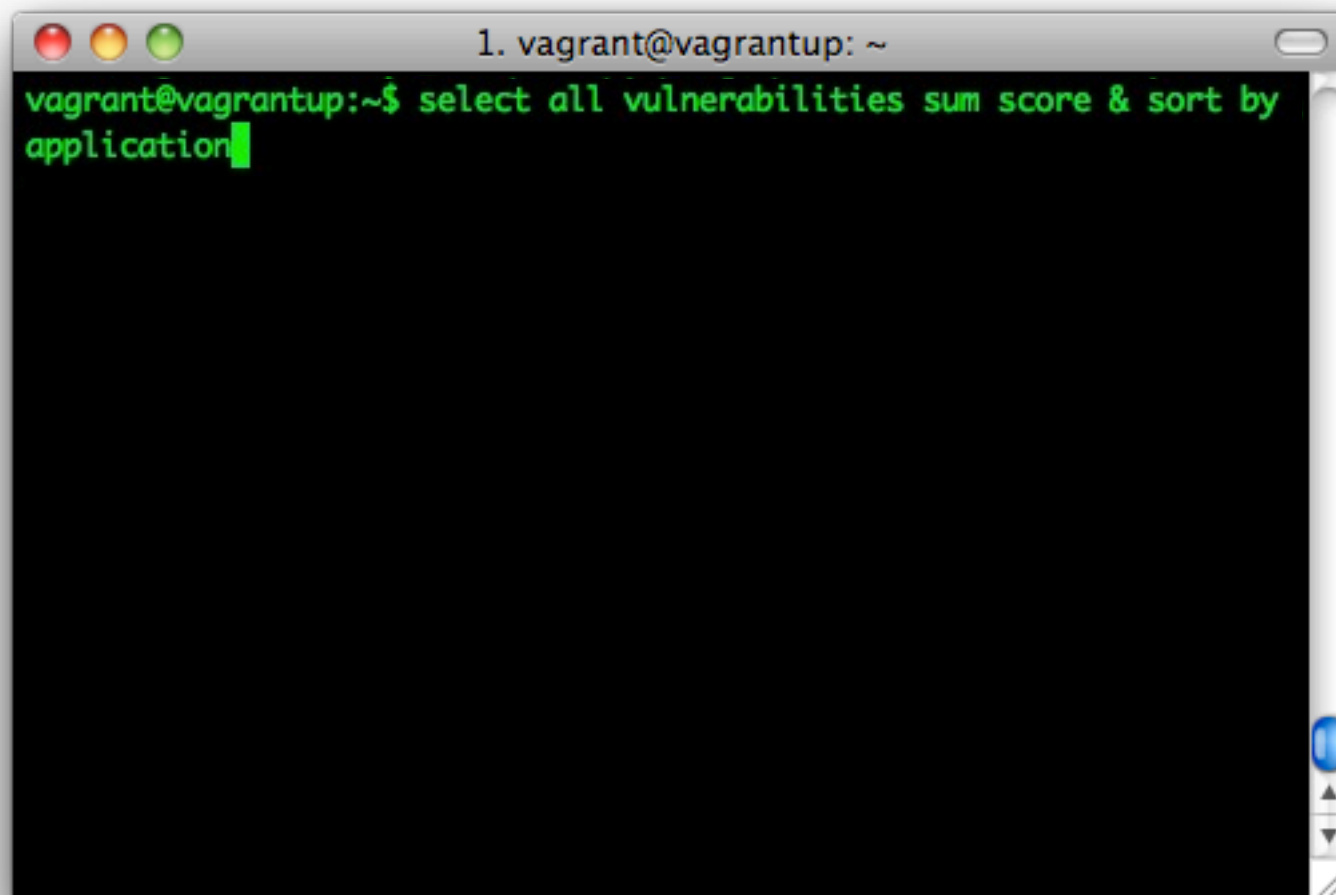
# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information

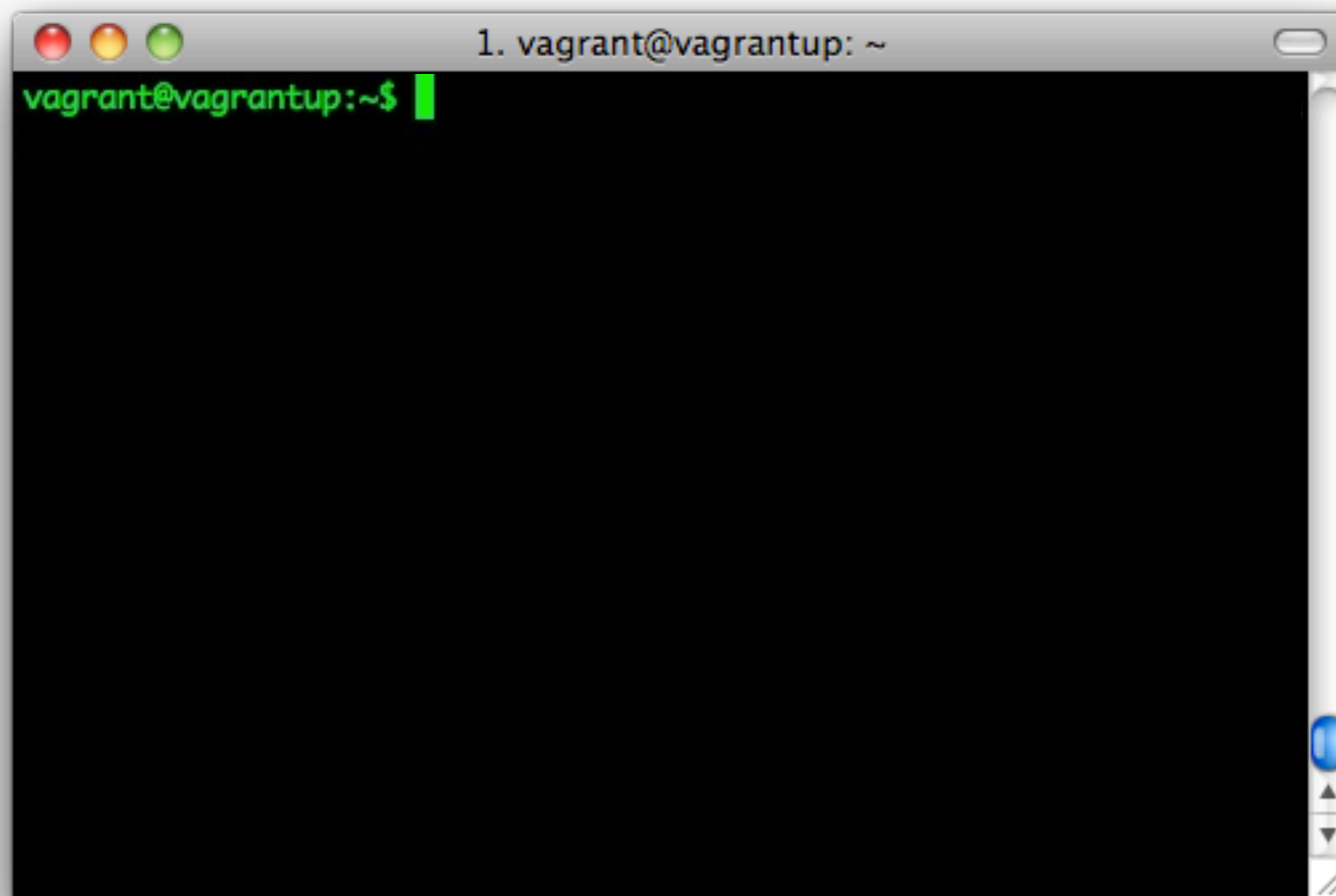


```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ select all vulnerabilities sum score & sort by  
application
```



# Data Lenses: Views into the Warehouse

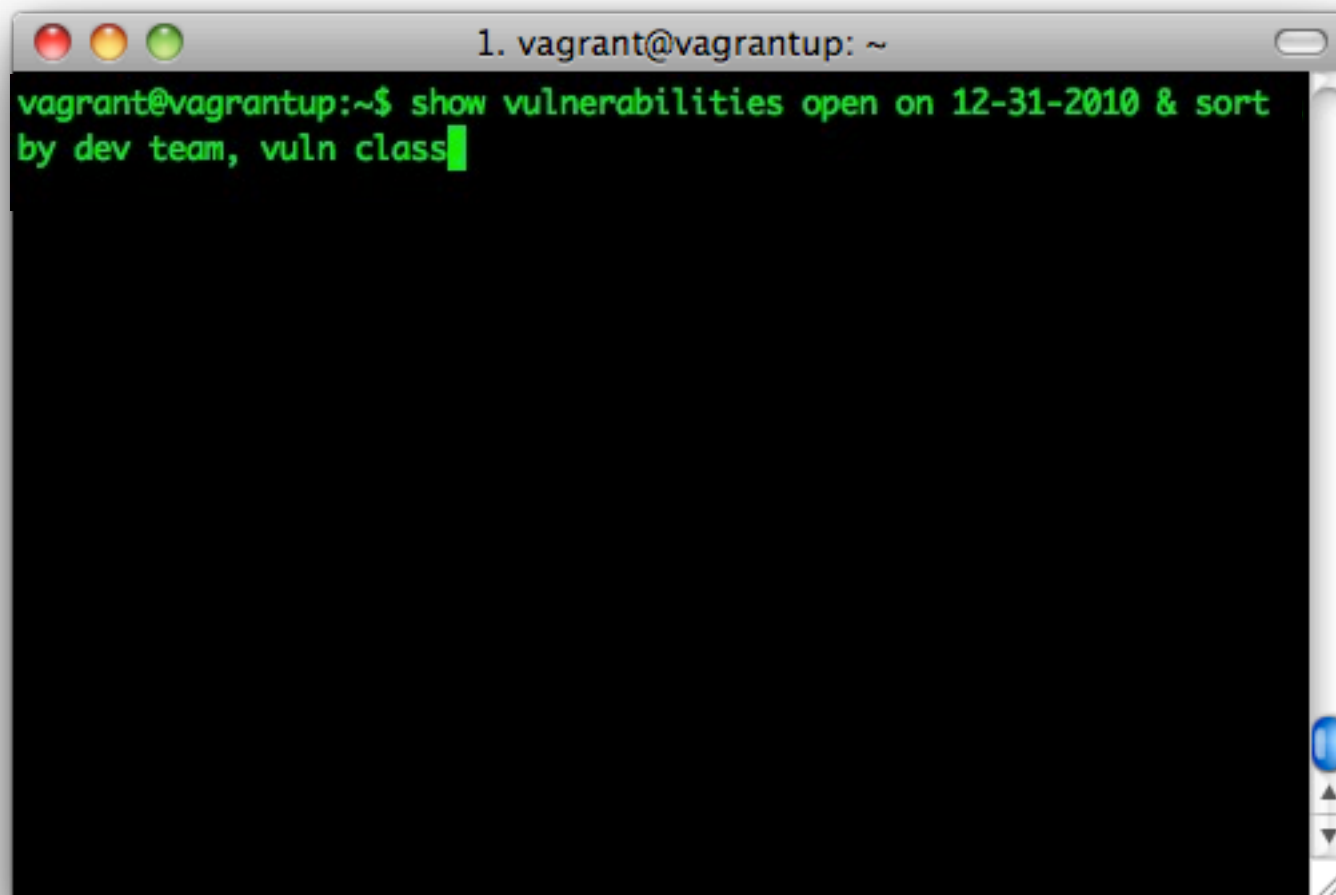
- Applying Filters To Glean Information





# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information




```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ show vulnerabilities open on 12-31-2010 & sort  
by dev team, vuln class
```



# Data Lenses: Views into the Warehouse

- Applying Filters To Glean Information



```
1. vagrant@vagrantup: ~  
vagrant@vagrantup:~$ show open vulnerabilities created after 2-1-201  
1 & sort by dev team, vuln class
```



# The Twitter Poll



RT @ebellis: . @securitytwits what non-security tools are you using for security purposes? < I carry this-here big stick.

10 May via Tweetie for Mac ☆ Favorite ↻ Retweet ↩ Reply



@ebellis grep, awk, sed, gnuplot

10 May via web ☆ Favorite ↻ Retweet ↩ Reply



@ebellis: . @securitytwits what non-security tools are you using for security purposes >> perl

10 May via Twitter for iPhone ☆ Favorite ↻ Retweet ↩ Reply



@securitytwits @ebellis For quick tests, Firebug's DOM-editing features make it a nice lazy alternative to Burp Proxy.

10 May via web ☆ Favorite ↻ Retweet ↩ Reply



@ebellis @securitytwits I use Text Filter (<http://www.musetips.com/text-filter.html>) all the time for search logs, lists, etc. Very fast.

10 May via web ☆ Favorite ↻ Retweet ↩ Reply



@ebellis ssh - port forwarding, tftp, MSSQL console, web browser, ftp/vnc/rdp clients

10 May via Seismic twirl ☆ Favorite ↻ Retweet ↩ Reply



@ebellis perl :)



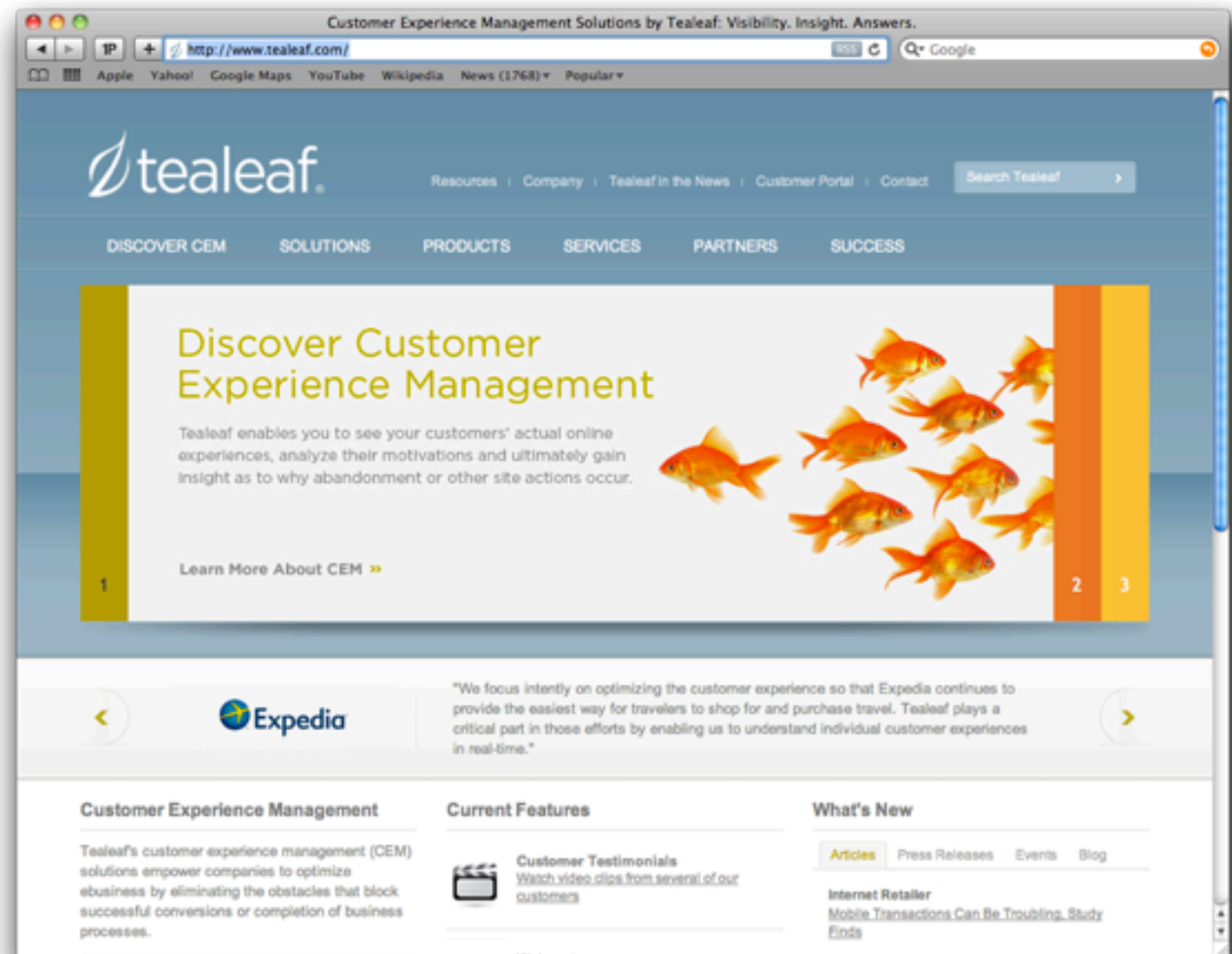


# My Favorite Non-Sec Tools

■ ■ TeaLeaf

■ ■ GreenPlum

■ ■ Ruby





## Resources Referenced

**Verizon DBIR** <http://www.verizonbusiness.com/dbir/>

**Symantec DeepSight** <https://tms.symantec.com/>

**VERIS Framework** <https://www2.icsalabs.com/veris/>

**WASC Web App Security Stats**  
<http://projects.webappsec.org/w/page/13246989/Web-Application-Security-Statistics>

**Denim Group - Real Cost of S/W Remediation**

<http://www.slideshare.net/denimgroup/real-cost-of-software-remediation>

**FS-ISAC** <http://www.fsisac.com/>

**DataLoss DB** <http://datalossdb.org/>

**SANS Internet Storm Center**  
<http://isc.sans.org/>

**TrustWave Global Security Report**  
<https://www.trustwave.com/GSR>

**XForce** <http://xforce.iss.net/>



# Q & A

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