



# Things Veeam ONE can tell you that you didn't know



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**RICKATRON**

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**@Veeam @RickVanover**



# Veeam ONE in a Tweet



**Rick Vanover**

@RickVanover

Rickatron quote of the day "I guarantee that Veeam ONE will tell you something about your environment that you didn't know, but need to fix"

12:51 AM - 13 May 2016

📍 London, England



# This complete visibility thing

An important sign of maturity to what is going on in the environment:

- VMware vSphere
- Microsoft Hyper-V
- vCloud Director
- **Veeam Backup & Replication**



**Complete Visibility**

# Free Edition of Veeam ONE

Has a few limitations but still quite usable

| Feature        | Free Edition Behavior                             |
|----------------|---|
| Data retention | 24 hours  |
| Reporting      | 1 saved report but none of the trending ones      |
| Host inventory | Unlimited vSphere & Hyper-V but no Backup logic   |
| Visio diagram  | Free Edition limited to storage and configuration |

← HYPER-V VMS (12/21-12/28)

TOP VMS BY CPU

| Name       | CPU Usage (%) |
|------------|---------------|
| server-h01 | 98 ↑          |
| oradesrv   | 96 ↓          |
| vsa01      | 93 ↓          |
| server-h02 | 60 ↑          |
| srv05      | 19 ↓          |
| vtl01      | 2 →           |
| fileserv04 | 2 ↓           |
| fileserv02 | 0 ↓           |
| oracle02   | 0 →           |
| sqlsrv03   | 0 →           |

TOP VMS BY MEMORY

| Name             | Memory Usage (%) |
|------------------|------------------|
| oracle02_replica | 83 ↓             |
| server-h02       | 82 ↓             |
| srv39            | 82 ↓             |
| vtl01            | 82 ↓             |
| sqlsrv03         | 82 ↓             |
| serverh03        | 82 ↓             |
| oradesrv         | 82 ↓             |
| srv31            | 82 ↓             |
| fileserv04       | 81 ↓             |
| server-h01       | 80 ↓             |

TOP VMS BY NETWORK INPUT OUTPUT RATE

| Name       | Network rate (KBps) |
|------------|---------------------|
| server-h01 | 96 ↑                |
| srv05      | 95 ↓                |
| server-h02 | 64 ↑                |
| fileserv04 | 18 ↓                |
| fileserv03 | 6 ↓                 |
| srv31      | 4 ↓                 |
| oradesrv   | 1 ↑                 |
| fileserv02 | 1 ↓                 |
| srv39      | 1 ↓                 |
| serverh03  | 1 ↑                 |

TOP VMS BY READ KB PER SEC

| Name             | Read (MBps) |
|------------------|-------------|
| oradesrv         | 1 ↓         |
| srv05            | 0 ↓         |
| fileserv04       | 0 ↓         |
| server-h01       | 0 ↓         |
| srv39            | 0 ↑         |
| srv31            | 0 ↑         |
| fileserv03       | 0 ↓         |
| serverh03        | 0 ↑         |
| server-h02       | 0 ↑         |
| oracle02_replica | 0 ↑         |

TOP VMS BY WRITE KB PER SEC

| Name       | Write (MBps) |
|------------|--------------|
| server-h01 | 0 ↑          |
| server-h02 | 0 ↑          |
| srv05      | 0 ↓          |
| oradesrv   | 0 ↑          |
| fileserv04 | 0 ↓          |
| srv31      | 0 ↑          |
| fileserv03 | 0 ↑          |
| serverh03  | 0 ↑          |
| srv39      | 0 ↑          |
| srv10      | 0 ↑          |

TOP VMS BY IOPS

| Name       | Number |
|------------|--------|
| oradesrv   | 105 ↓  |
| server-h01 | 23 ↑   |
| server-h02 | 17 ↓   |
| srv05      | 7 ↓    |
| fileserv04 | 6 ↓    |
| srv31      | 2 →    |
| serverh03  | 1 →    |
| fileserv03 | 1 →    |
| srv39      | 1 →    |
| sqlsrv03   | 0 →    |

# Questions

Can you tell how many IOPs are being consumed by each VM?  
(Especially in Hyper-V)

# More on IOPs

Important information!

## TOP VMS BY IOPS



| Name         | Number |   |
|--------------|--------|---|
| oradesrv     | 105    | ↓ |
| server-h01   | 23     | ↑ |
| server-h02   | 17     | ↓ |
| srv05        | 7      | ↓ |
| fileserver04 | 6      | ↓ |
| srv31        | 2      | → |
| serverh03    | 1      | → |
| fileserver03 | 1      | → |
| srv39        | 1      | → |
| sqlsrv03     | 0      | → |

# More Questions

How much time is left on the backup storage?

## Meet the report for Capacity Planning for Backup Repositories

### Summary

#### Backup Infrastructure:

Number of repositories: 7  
Number of jobs: 6  
Number of VMs stored: 9

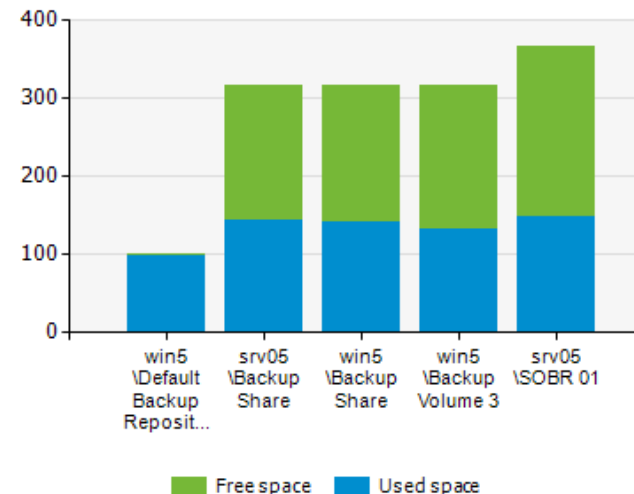
#### Physical Resources:

Total capacity: 1.5 TB  
Total free space: 0.9 TB  
Utilization ratio: 43.76 %

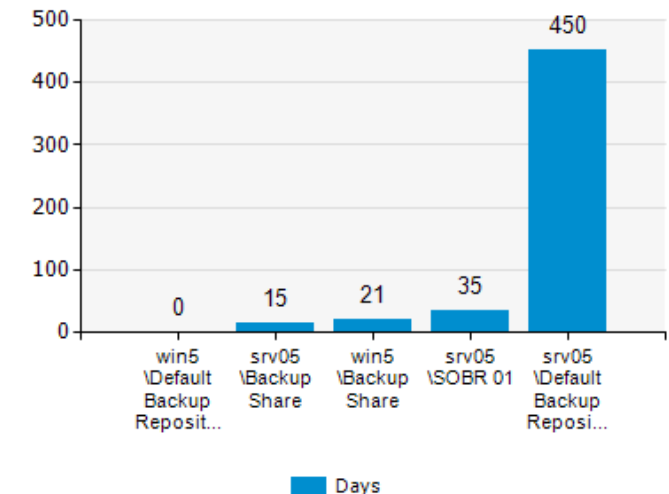
#### Capacity Planning:

Min days left: 0  
Space required: 0.1 TB

Top 5 Utilized Repositories (GB)



Top 5 Repositories by Days Left



# Another Question

Is my backup infrastructure operating as expected?

In particular, are the proxies moving as architected?

The Data Protection View is very helpful!

Bonus points: Run the **Unmapped Datastore LUNs** report to see what *can* run as Direct SAN access but isn't.



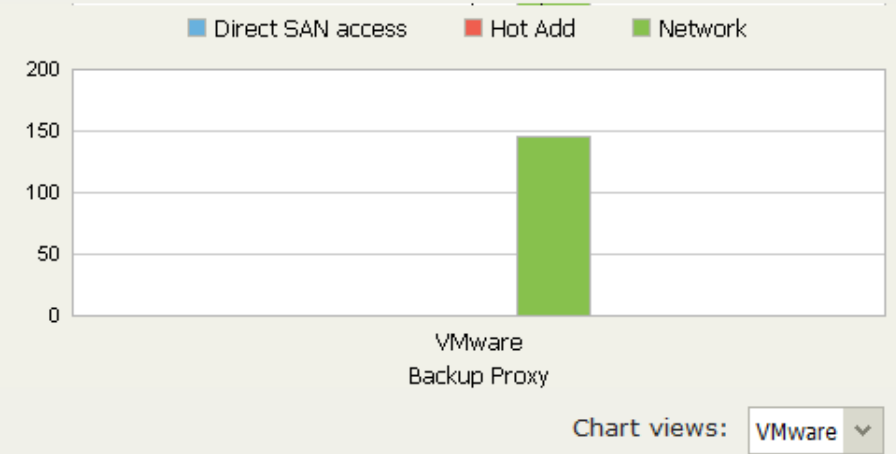
- Backup Repositories
  - CIFS - Scale-out Share
  - Cloud repository - Brian and Joe
  - Cloud repository 1
  - Data Domain Backup RL Site
  - Data Domain Transportable (Inaccessibl)
  - ExaGrid Deduplication
  - JBOD - Temporary Hybrid SSD
  - Rich's Repository
  - Scale-out Backup Repository 1
    - CIFS - Generic
    - Data Domain Deduplication
    - ExaGrid - Scale-out
    - JBOD - Windows Server
  - Scale-out Backup Repository 2
  - Scale-out Backup Repository 3 - Single I
  - Tenant 4 repository 1
- Backup Proxies
  - SSA-DKNEST01.SSA.LAB
  - SSA-DKNEST02
  - SSAHV00.SSA.LAB
  - VMware Backup Proxy
- WAN Accelerators
- SSA-Backup

[Infrastructure View](#)  
[Business View](#)  
[Data Protection View](#)  
[Alarm Management](#)

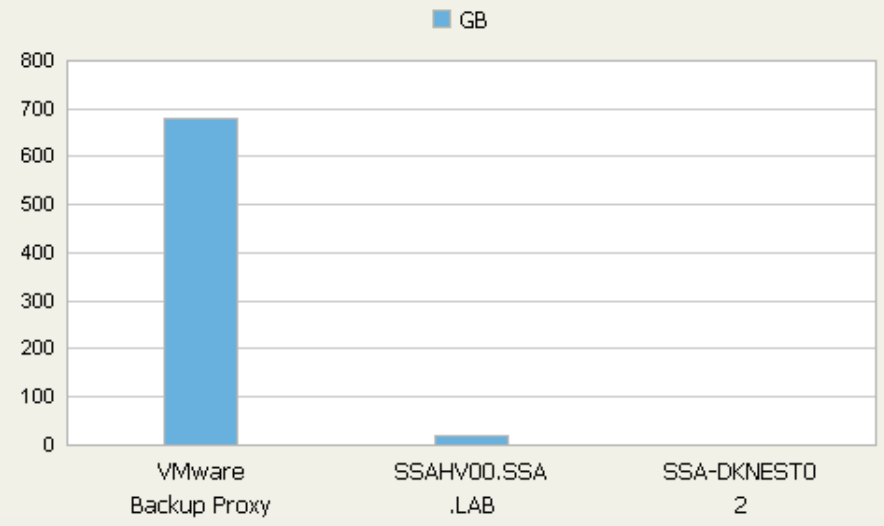
### PROXY SERVERS OVERVIEW

- 0 Direct SAN proxy servers
- 0 Hot Add proxy servers
- 1 Network proxy server
- 2 On-host proxy servers
- 0 Off-host proxy servers

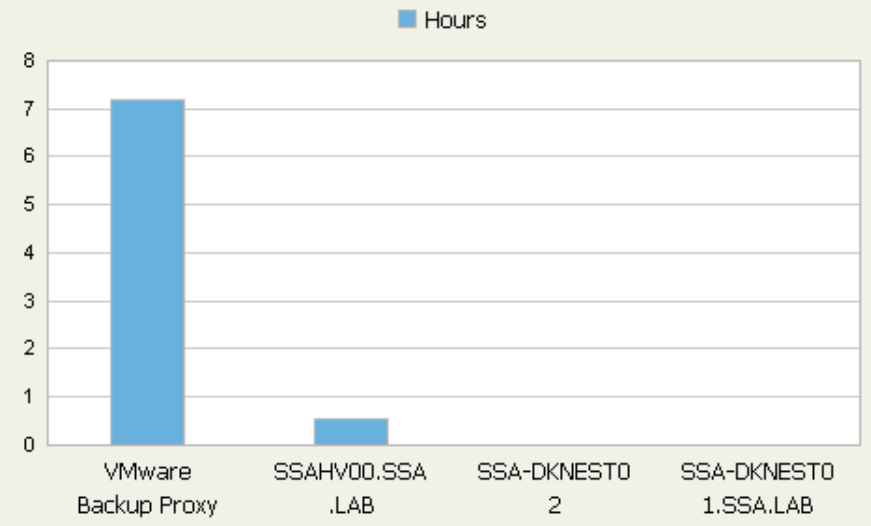
### TOP PROXY SERVERS BY PROCESSED DISKS



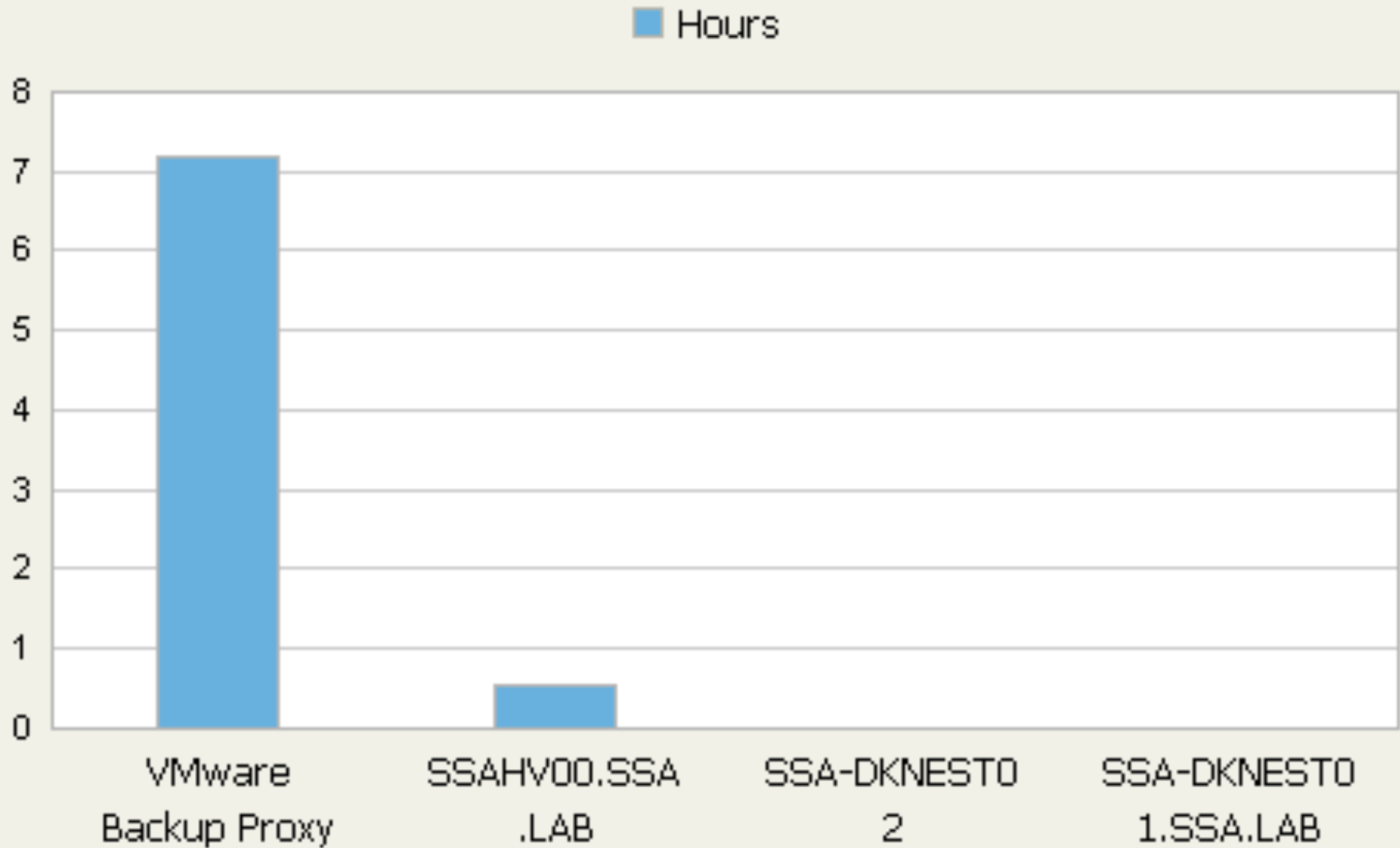
### TOP PROXY BY TRANSFERRED DATA



### TOP PROXY SERVERS BY WEEKLY BACKUP WINDOW



# TOP PROXY SERVERS BY WEEKLY BACKUP WINDOW



# Questions about storage

What VMs are changing the most and least.

Check the **VM Change Rate Estimation** report.



## VM Change Rate Estimation

### Description

This report predicts the number of changed blocks (measured in GB) for virtual disks based on virtual machines write rate.

### Report Parameters

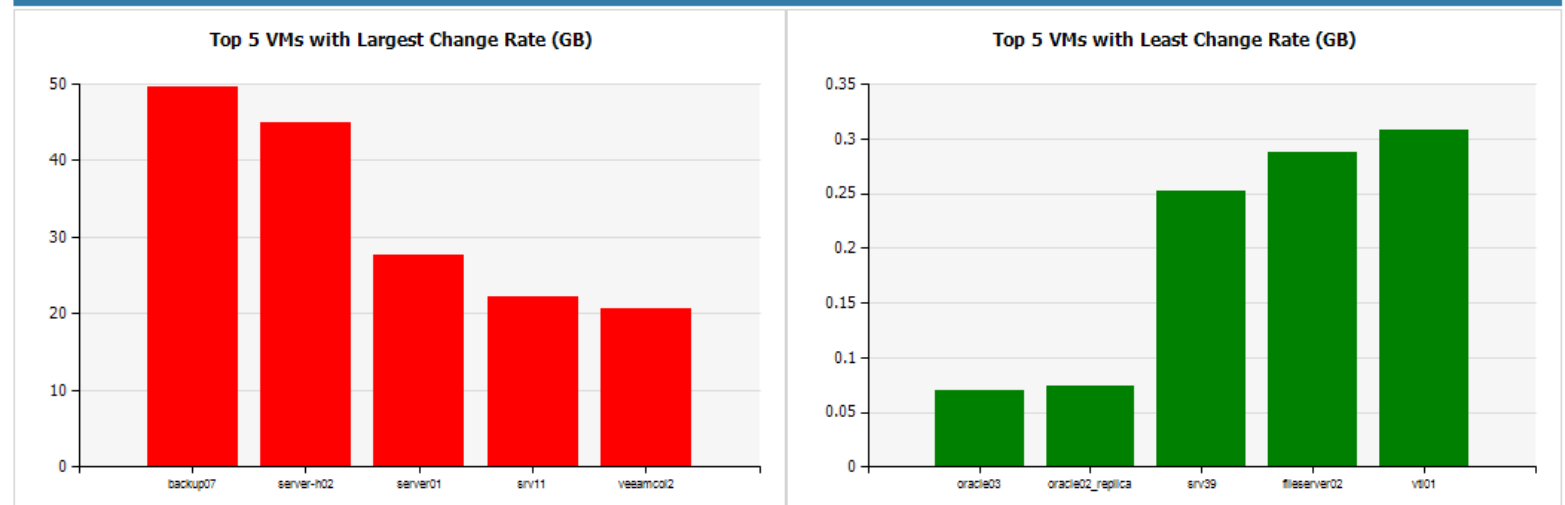
Scope: Virtual Infrastructure

Interval: Past day ( 11/11/2015 - 11/11/2015 )

Top N: 5

Show VMs with no changes: False

### Summary

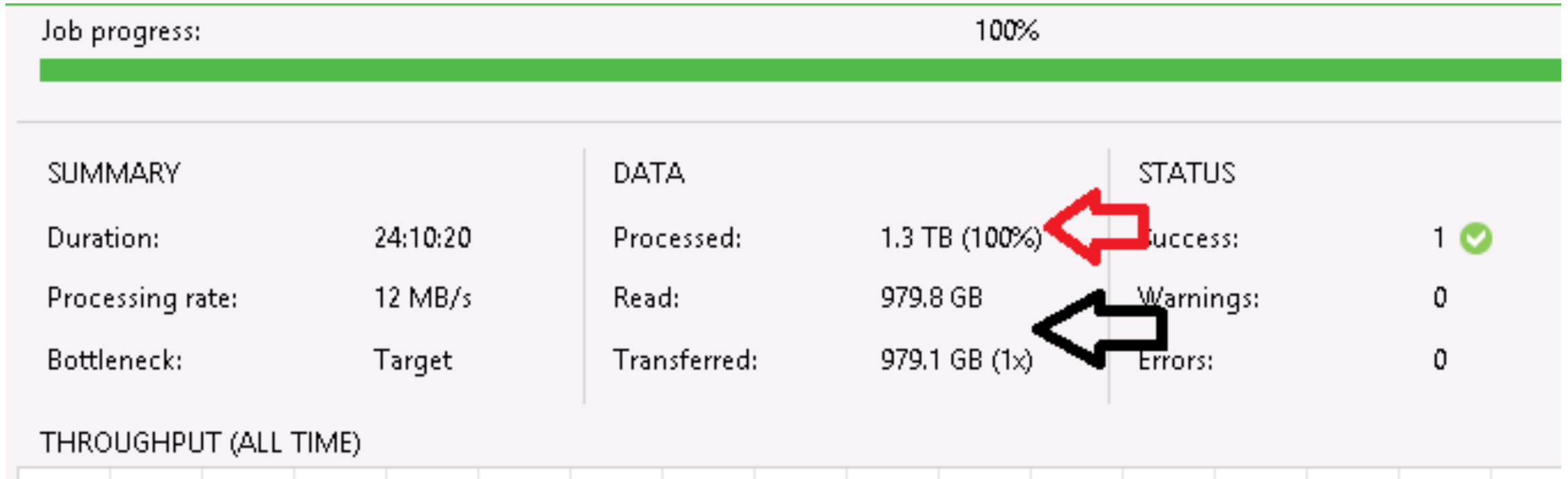


Report Created: 11/12/2015 2:00:58 PM

Page: 1 of 2

# Question... Can we fix that?

BitLocker!



# Veeam ONE & this surface areas

Most security strategies are very clear and strong for running workloads and surface areas.

The data protection strategy has it's own surface area, and it usually incorporates the production systems and more.



# Old mindset vs. Reality of today



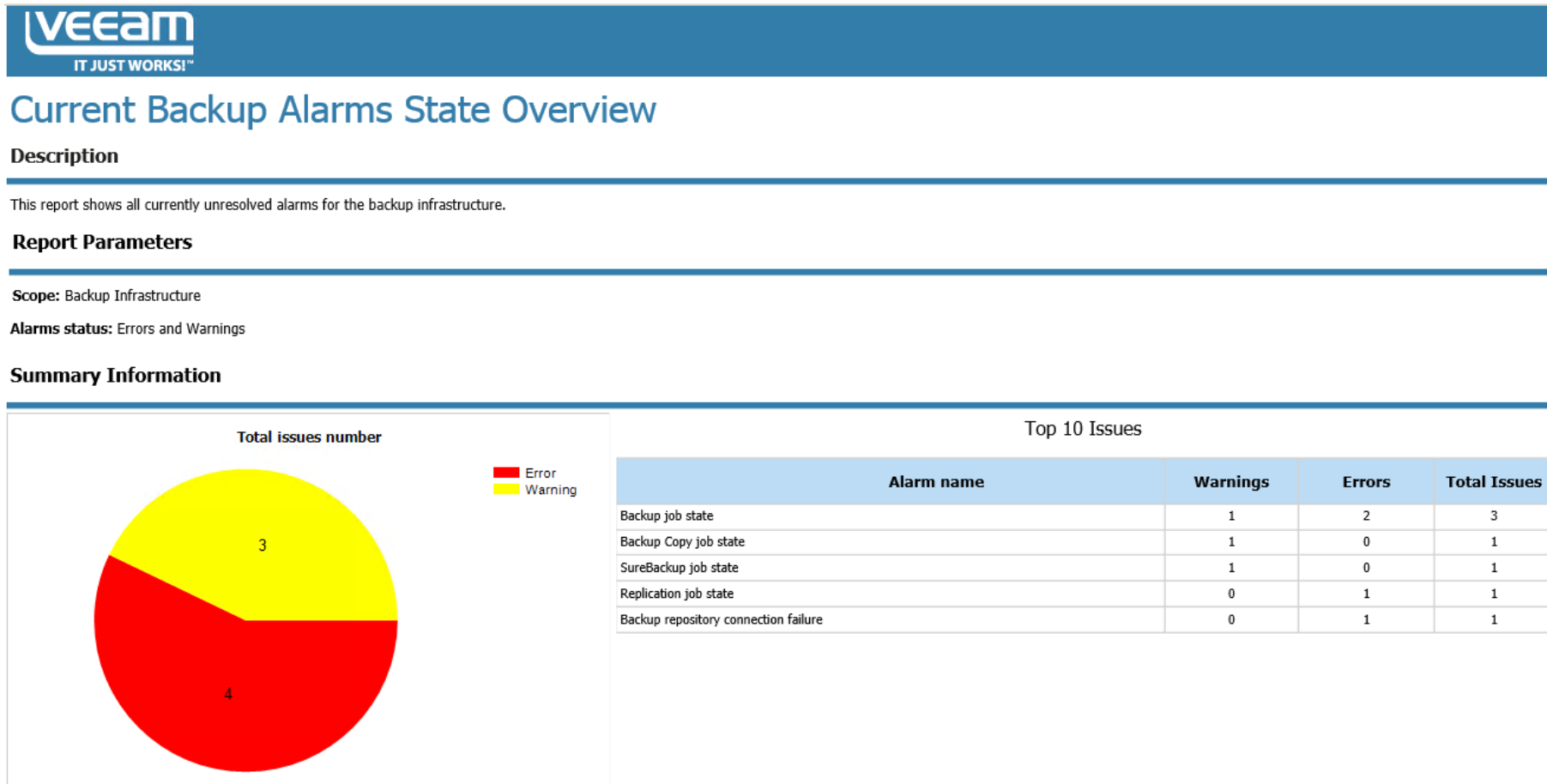
# Another question...

In the Backup & Replication UI; what do you look for most:

- Successes **Green**
- Warnings **Yellow**
- Failures **Red**

# There is even a report of Alarms

## The Current Backup Alarms State Overview report

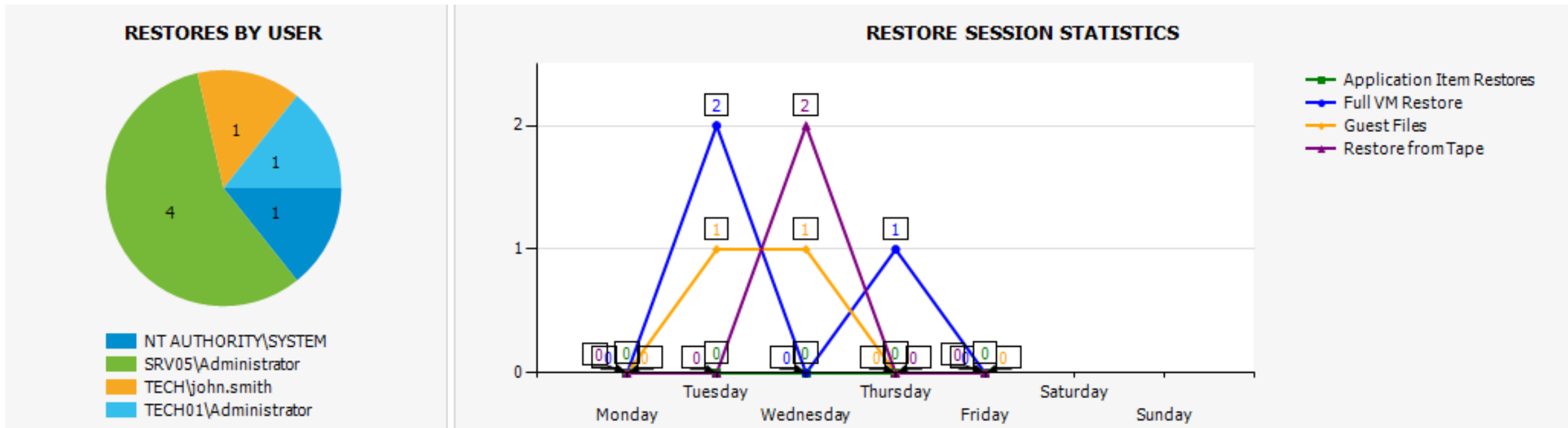




# What about successful restores?

Are they authorized, expected, the right “type”?

I love the **Restore Operator Activity Report**



# Things to look for and do

- Look for redirected FLR
- Ensure there are no *unplanned* backups
- Do automate critical reports AND have them emailed to supervising groups

# Backup jobs visibility

## Latest Backup Job Status report

### Latest Backup Job Status

#### Description

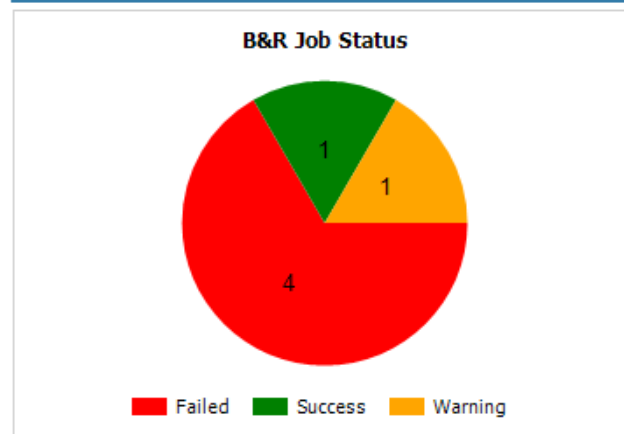
This report provides information about Veeam Backup & Replication jobs status.

#### Report Parameters

**Scope:** win5, srv05

**Interval:** Past Week

#### Summary Information



| Top 10 Jobs by Duration |                     |                  |               |         |
|-------------------------|---------------------|------------------|---------------|---------|
| Job Name                | Duration (Last Run) | Transferred (GB) | Avg. Duration | Status  |
| win5\SQL DB Backup      | 00:22:15            | 0.00             | 00:22:07      | Failed  |
| win5\VDI Replication    | 00:15:04            | 0.00             | 00:12:59      | Failed  |
| srv05\DB Backup         | 00:14:30            | 0.00             | 00:14:15      | Failed  |
| srv05\VDI Backup        | 00:14:24            | 0.00             | 00:14:11      | Failed  |
| srv05\Apache Backup     | 00:03:37            | 0.07             | 00:03:52      | Success |
| win5\Oracle Backup      | 00:02:45            | 0.37             | 00:05:48      | Warning |

# Insider Threats and Backup?



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### Insider Threats: A Bigger Risk Than You Think

*The temptation among employees—especially those in IT—to steal sensitive company data looms surprisingly large, but employers can detect these impulses by tuning in to a wide range of risk indicators.*

The term “insider threats” often refers to individuals who use their knowledge of or access to an organization and its systems to deliberately perpetrate wrongdoing, whether fraud, sabotage, theft, or a violent act. These individuals may be current or former employees, contractors, or employees of third-party service providers.

Insider threats also include individuals who don’t intend to do harm, but whose choices and actions compromise the safety or security of their organizations. For example, new employees who are unaware of their companies’ cybersecurity practices may neglect to properly encrypt email containing sensitive data, leaving those messages vulnerable to certain kinds of

deloitte.wsj.com  
<http://vee.am/cATUHw>

# The Widespread Risk of Insider Threats

**97%** of insider threat cases studied by Stanford University involved an employee whose behavior a supervisor had flagged, but that the organization had failed to follow up on.

**92%** of insider threat cases were preceded by a negative work event, such as a termination, demotion, or dispute with a supervisor.

**90%** of IT employees indicate that if they lost their jobs, they'd take sensitive company data with them.

**59%** of employees who leave an organization voluntarily or involuntarily say they take sensitive data with them.

**51%** of employees involved in an insider threat incident had a history of violating IT security policies leading up to the incident.

**25%** of employees have used email to exfiltrate sensitive data from an organization.



## Network Activity

- Excessively large downloads
- Access request denials

## Compliance Cases

- Noncompliance with training requirements
- Policy violations

## Data Exfiltration

- Spikes in outbound email traffic volume
- Attachments sent to suspicious recipients
- Removable media alerts

## Data Exfiltration

## What to watch for

## Categories of activity linked to insider threats

## Time & Expense

## Time & Expense

- Expense violations
- Time entry violations

## Access Attributes & Behaviors

- Access levels
- Security clearances
- Privileged user rights

## Access Attributes & Behaviors

## Personnel Management

- Declining performance reviews
- Notice of resignation or termination
- Disciplinary action

## Physical Security

## Physical Security

- Physical access request denials
- Physical access anomalies

## External Data

## External Data

- Social media posts
- Financial duress
- Criminal/civil history
- Foreign contacts/travel

Source: "Insider threats: What every government agency should know and do," Deloitte DBriefs, March 2016.

deloitte.wsj.com

# Some statistics & characteristics



**59%** of employees who leave an organization voluntarily or involuntarily say they take sensitive data with them.



**90%** of IT employees indicate that if they lost their jobs, they'd take sensitive company data with them.



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