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Are Your Backups Usable?
Backup Testing and Automation with SureBackup

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Agenda

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Automated Testing with SureBackup

- Intro
- Why are you backing up your data
- What problems can arise with backup data
- How are you sure a backup is “good”
- Where SureBackup saves the day

Why are you backing data up?

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Application data are critical to businesses

- **Active Directory**
- **Exchange: Mailboxes**
- **SQL: Databases**
- **Apache / IIS servers**
- **User Network File Shares**

Applications solve problems and make money for today's businesses!

Your Boss

From the Business side…

Businesses know that application downtime loses valuable work and money.

The business should defines the importance of applications, not IT!

What's a Business Service?

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Business services are provided by applications:

- Email is a service that is provided by Exchange / O365
- Application Delivery can be one or many servers that provide applications to users over the network (EG: Citrix)
- Travel Planning and Expense Reporting are business services that can be provided by Concur (SaaS)

BIA, RPO/RTO, and other TLA's

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BIA: Business Impact Analysis - What is the impact to the business if a service fails?

RPO: Recovery Point Objective – How much data loss can the business incur? (minutes, hours, days)

RTO: Recovery Time Objective – How long do I have to restore this data to working order?

TLA: Three Letter Acronym

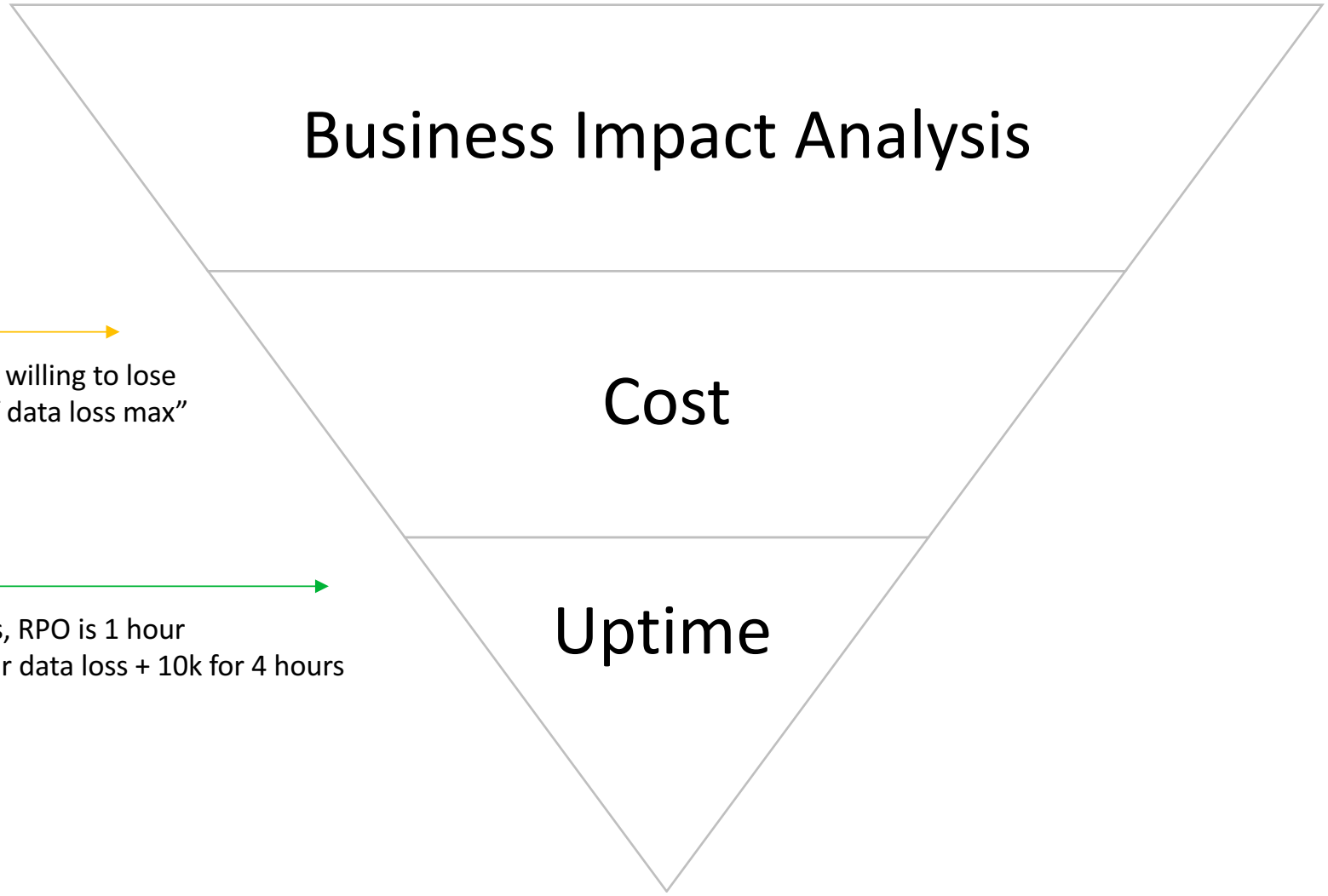
RP… what?

BIA defines RPO/RTO

BIA: “Lose $2,500/hr
if email is inaccessible;
$10,000 for 1 hr data loss”

Management: “We are only willing to lose
$20,000 a year w/ 1 hour of data loss max”

RTO is 4 hours, RPO is 1 hour
(10k for 1 hour data loss + 10k for 4 hours
downtime)



Put it all in perspective

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- SLAs help form RPO/RTO targets, which in turn dictate the backup and recovery windows
- Knowing these timeframes helps secure business assets and moves away from “reactive” mindset
- Identifies which apps are important, which to recover first, and in what order

Backups Protect the Business
...and the business protects
our paycheck!

Emphasis on the “Recovery”

RPO determines how much data we can lose, hence how often we backup.

If I can lose 24 hours of data, is a once-daily incremental backup satisfactory to meet the business needs?

What about a once-daily full backup?

What if I can’t restore that backup?

Give it to me Straight Doc…

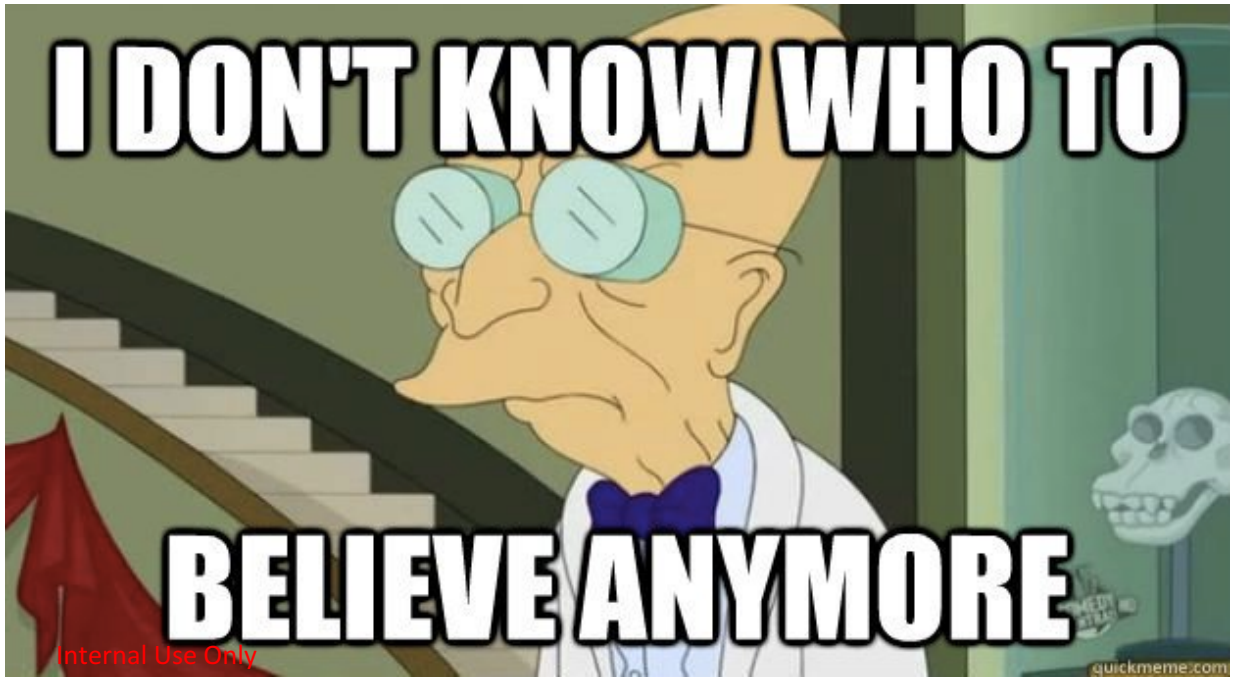
Any break in the backup chain has the potential to lose money for your business

- Production Server outa
- Backup Ser
- Back (Disk/Tape)
- Failed p (timeout/intervention/etc)
- Inconsistencies between App Tiers
- Data Corruption on physical media

Ransomware

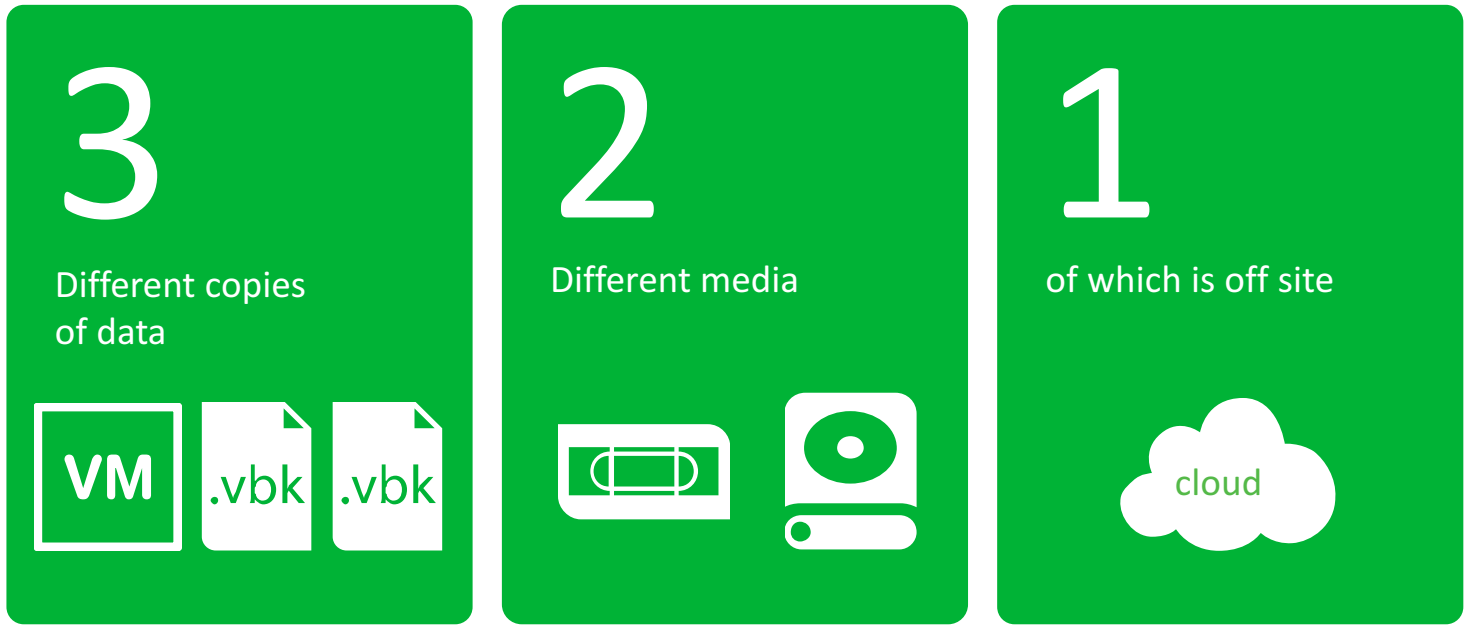
What do I do?!?!?

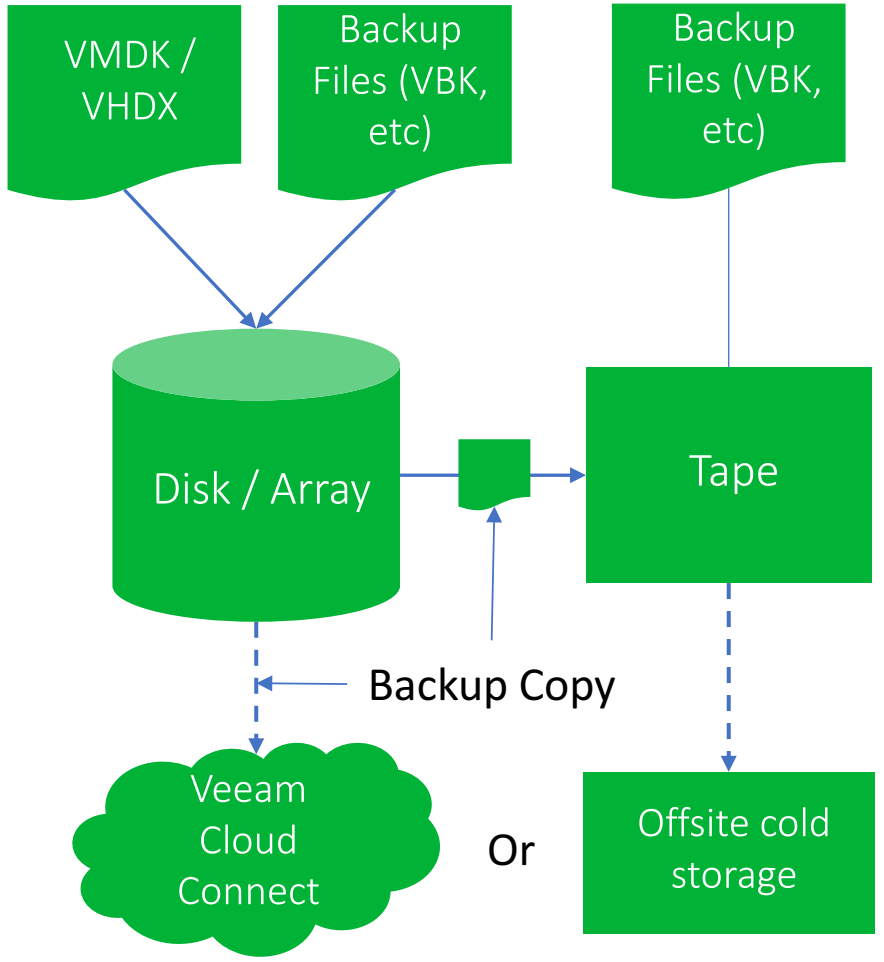
Internal Use Only



Internal Use Only

3-2-1 Rule


3
Different copies of data
VM
.vbk
.vbk
2
Different media
1
of which is off site
cloud


VMDK / VHDX
Backup Files (VBK, etc)
Backup Files (VBK, etc)
Disk / Array
Tape
Backup Copy
Veeam Cloud Connect
Or
Offsite cold storage

But how do I know…

Internal Use Only

Test your Backups!

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- Test your Backups
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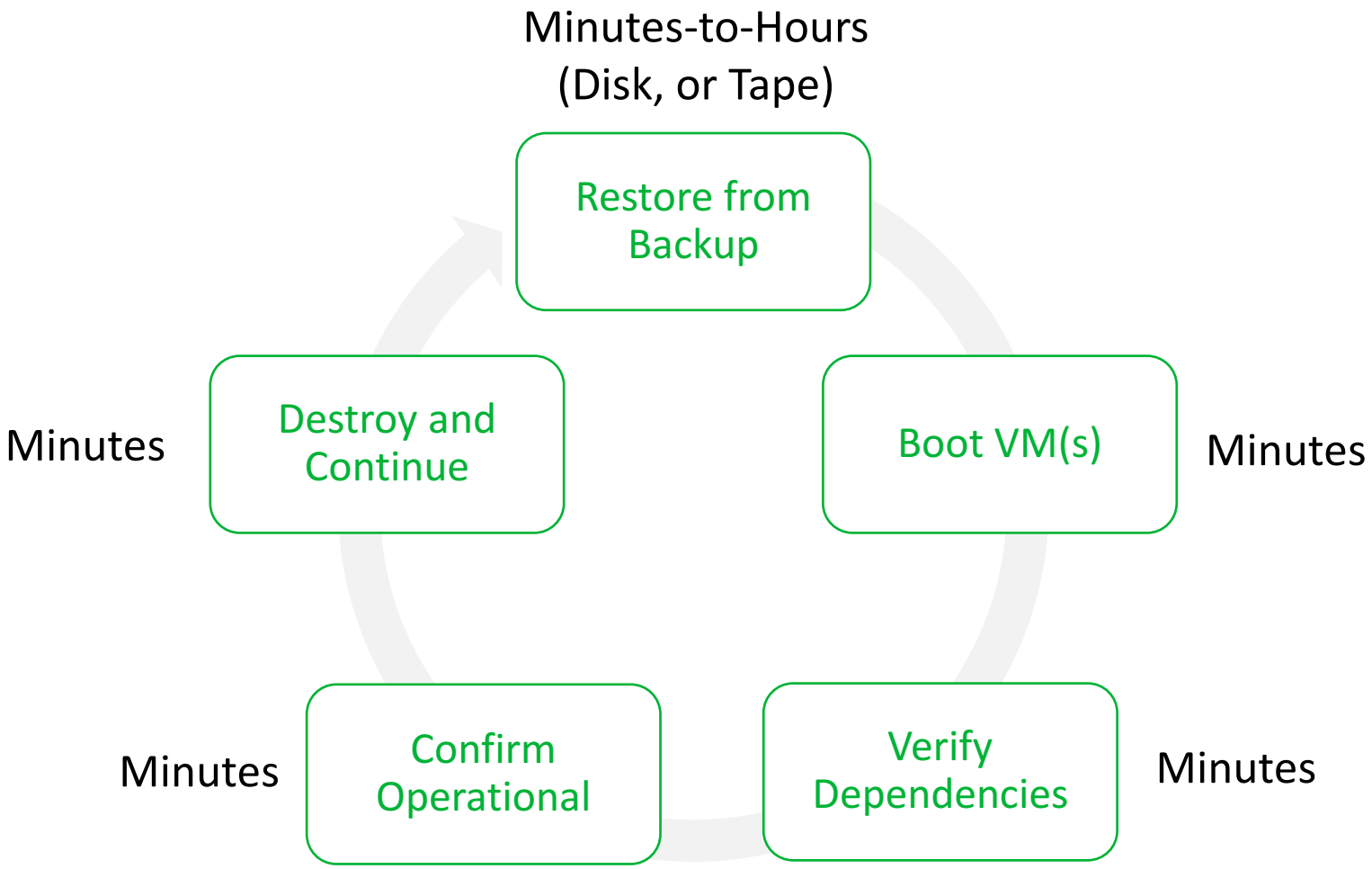
Internal Use Only

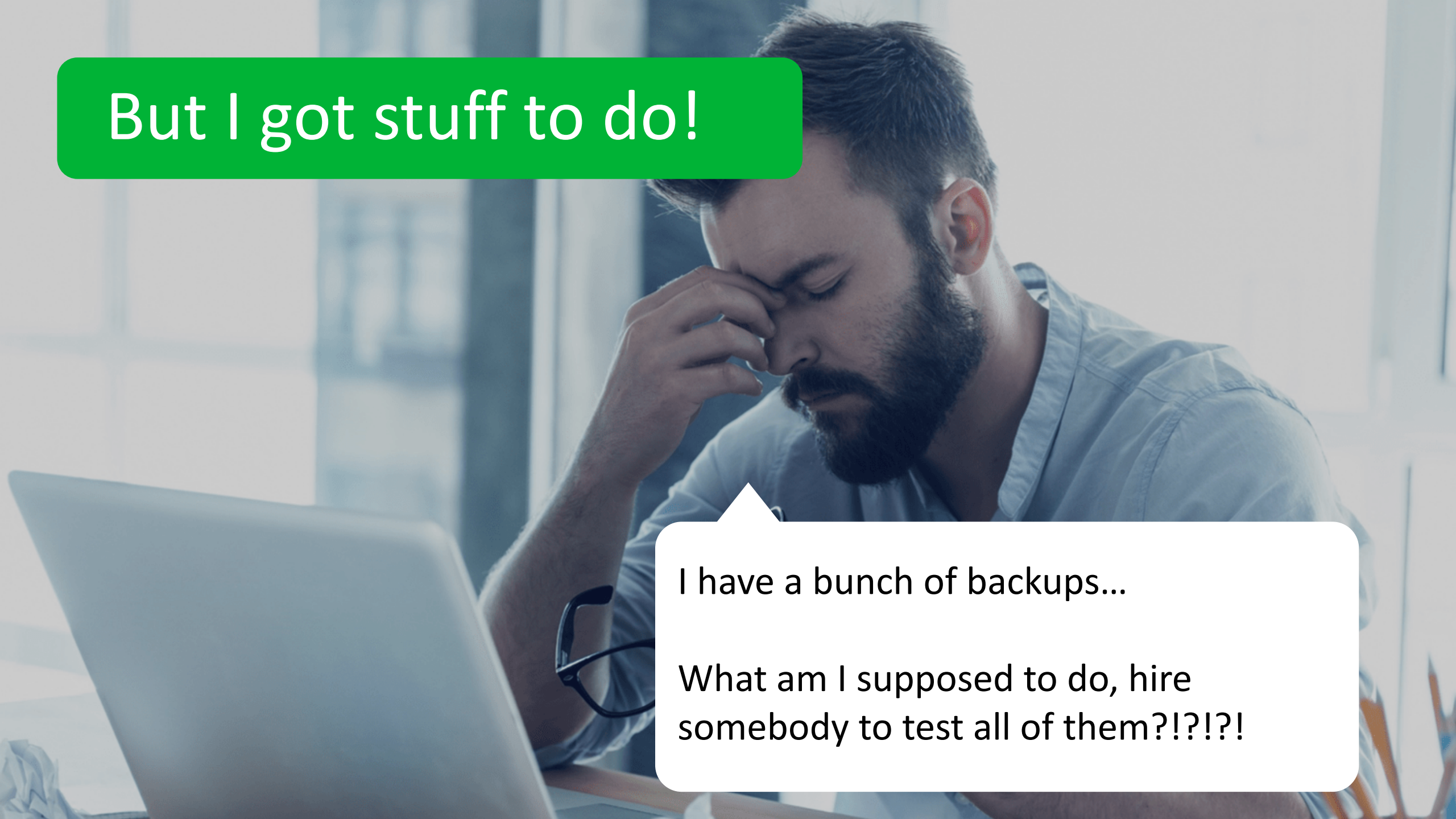
Testing Backups Takes Time



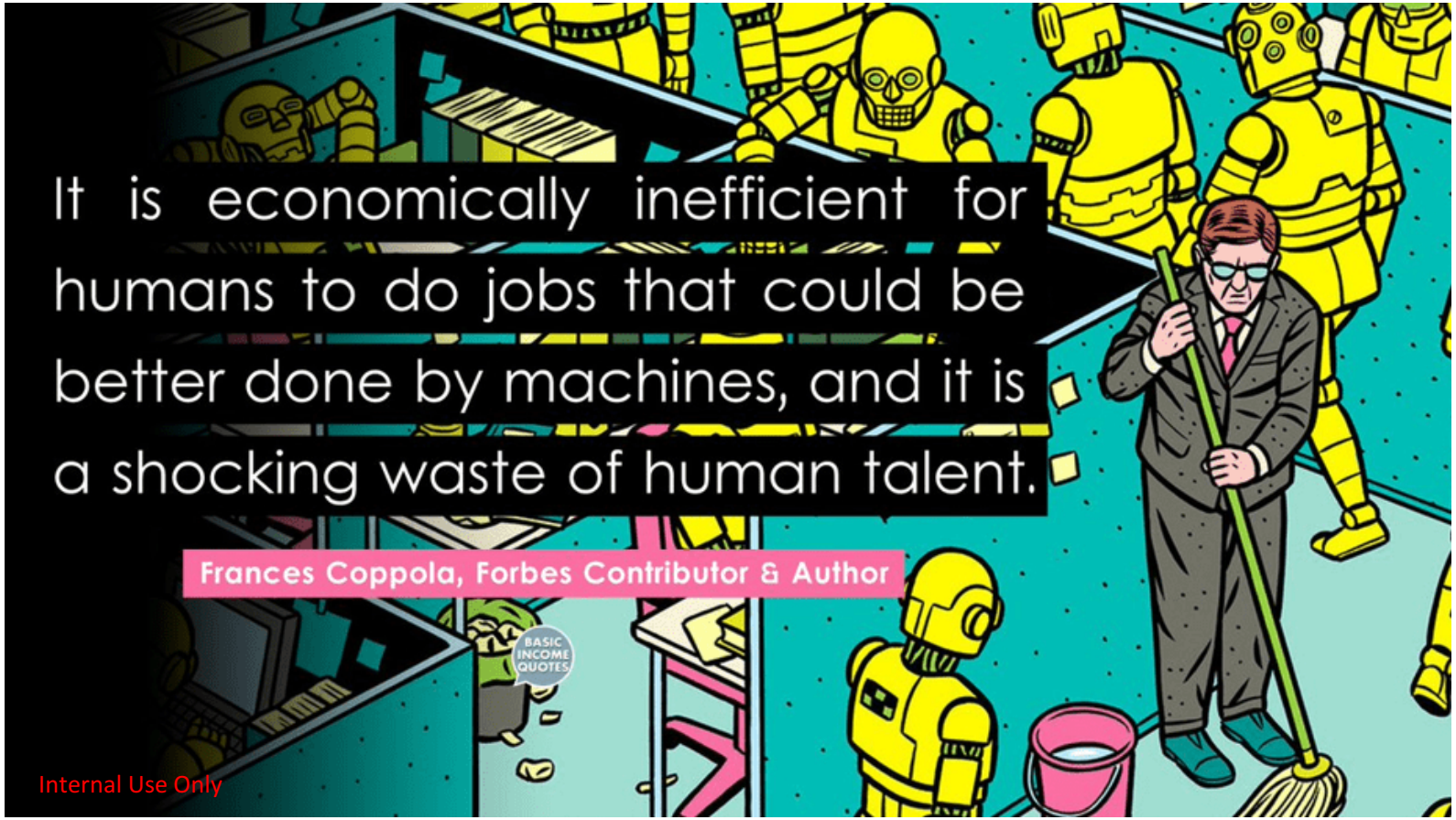
Minutes to Hours Per-Application

If done manually, delays *will* happen

But I got stuff to do!



Let the computers do the work



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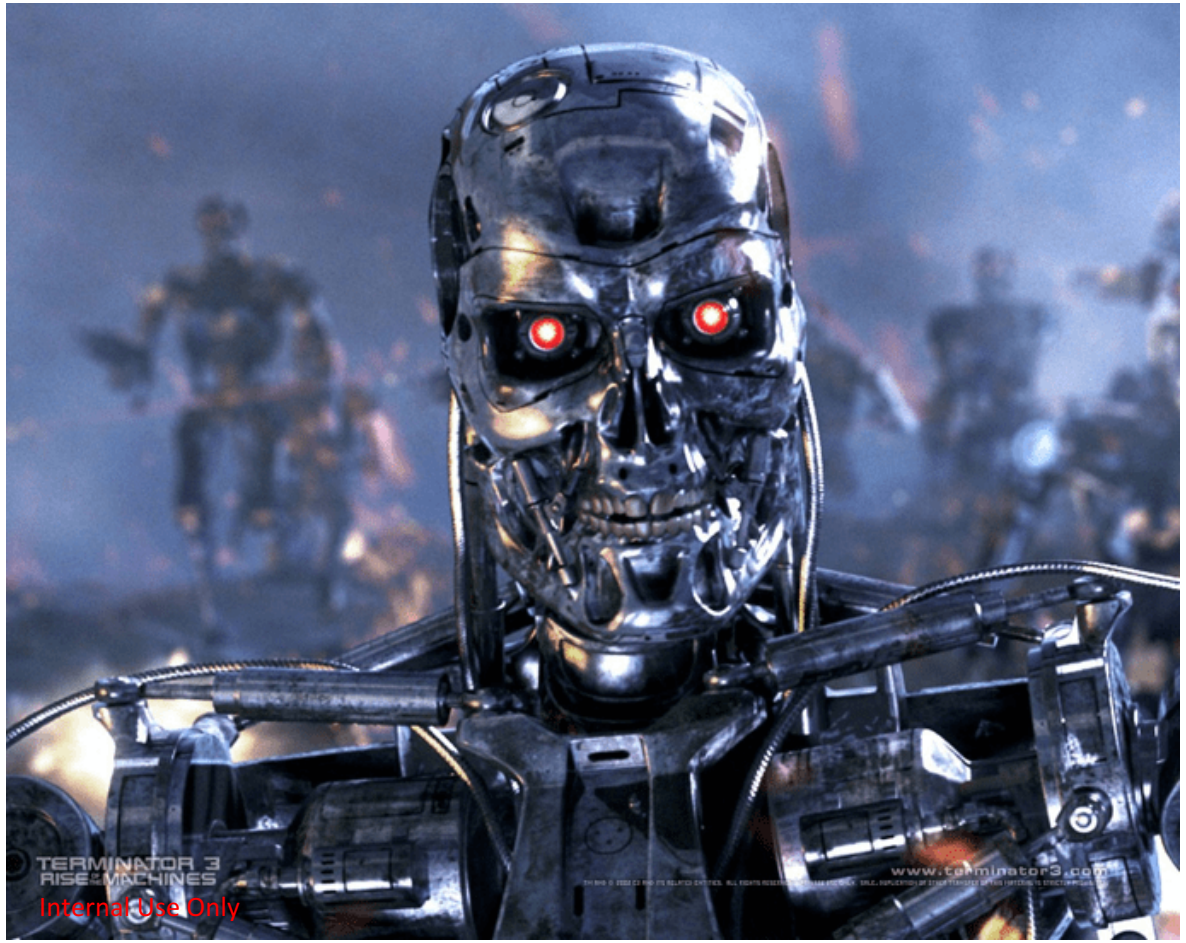
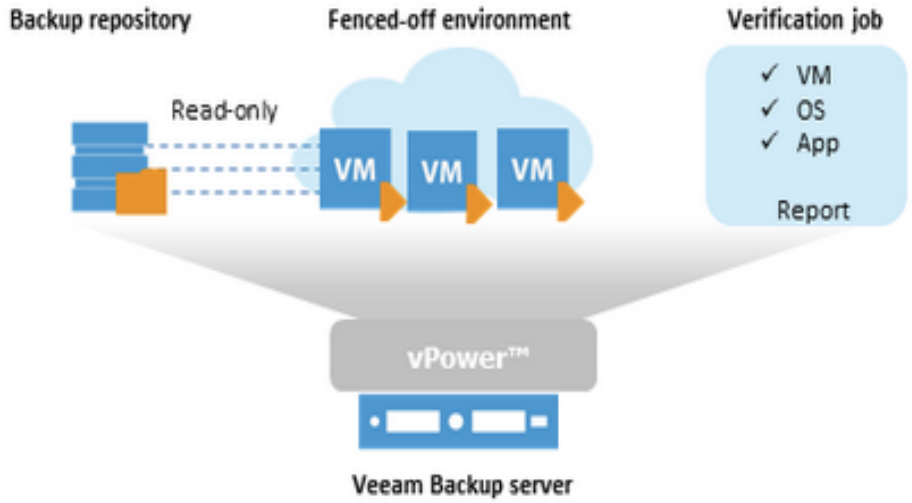
As long as they aren't Skynet…



Internal Use Only

SureBackup does the work

- Schedule backup tests in Read-Only mode
- Network Isolation to ensure safe execution
- Automated tests of VM, Operating System, Application(s) and Custom Scripts
- Works for Hyper-V and vSphere



SureBackup - what it tests

Automated Testing of:

- OS – API calls
- Heartbeat Test – VMware Tools or Hyper-V Integration Svc
- Ping and Network port probe (any network application)
- MSSQL – connect to DB and execute “USE SQL” query
- Custom scripts

Avoid False Positives!

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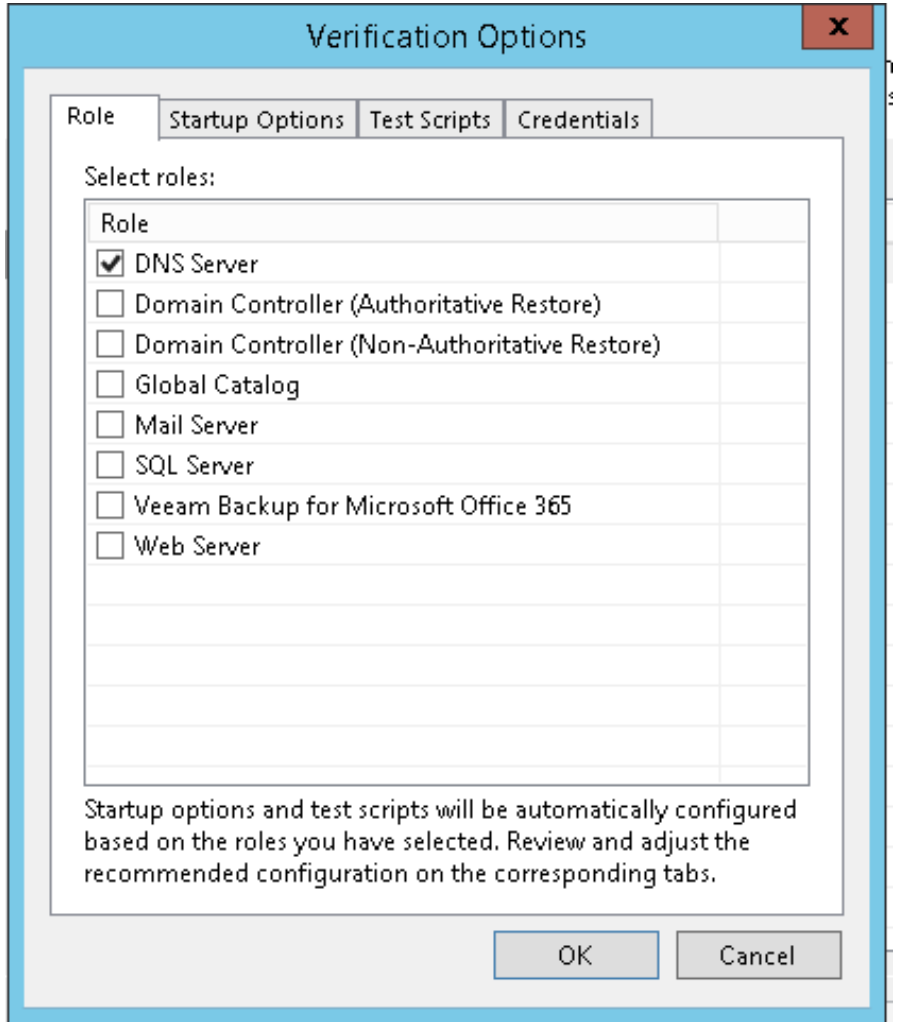
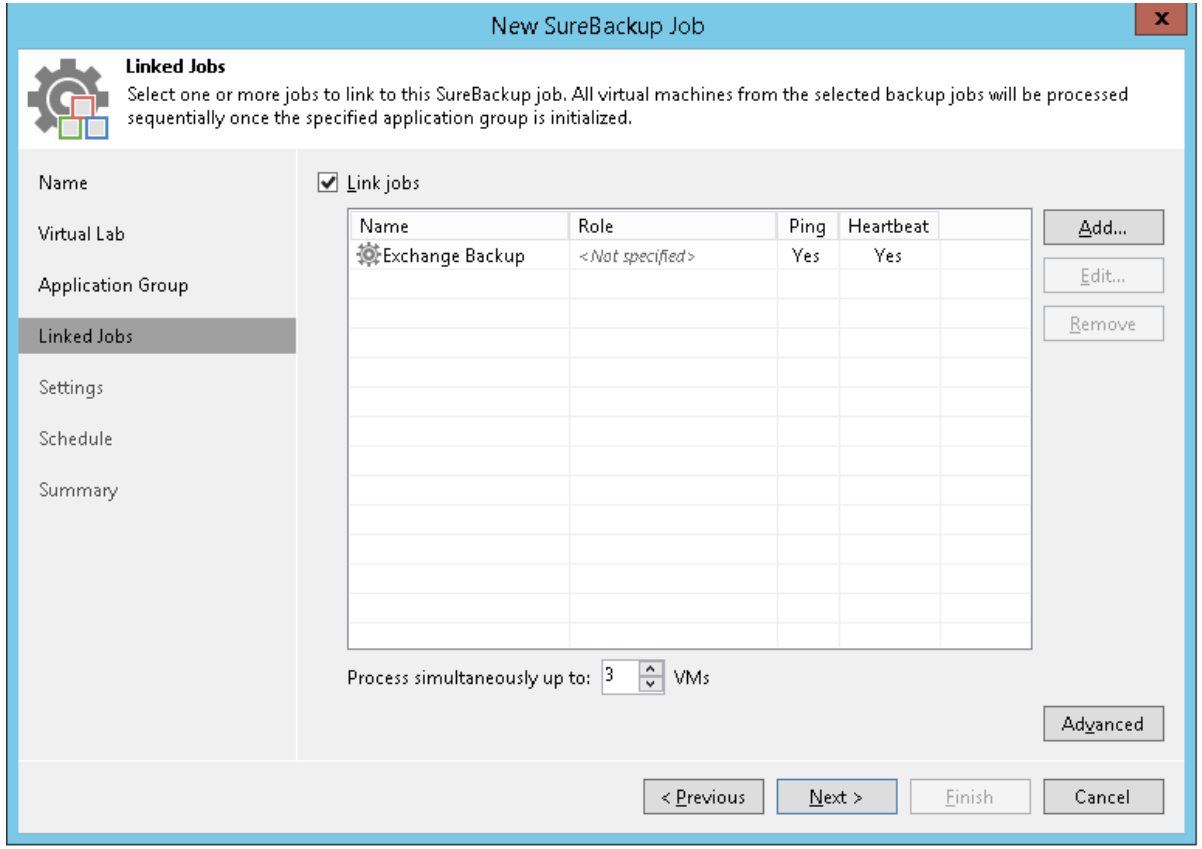
Application Groups

- Select a group of VMs to test
- Most apps require Infra Services:
  - Active Directory Domain Controller
  - DNS Server
  - Email Server
  - Web Server
- Application Groups can form the Infrastructure Services Foundation
- Dependent list / services



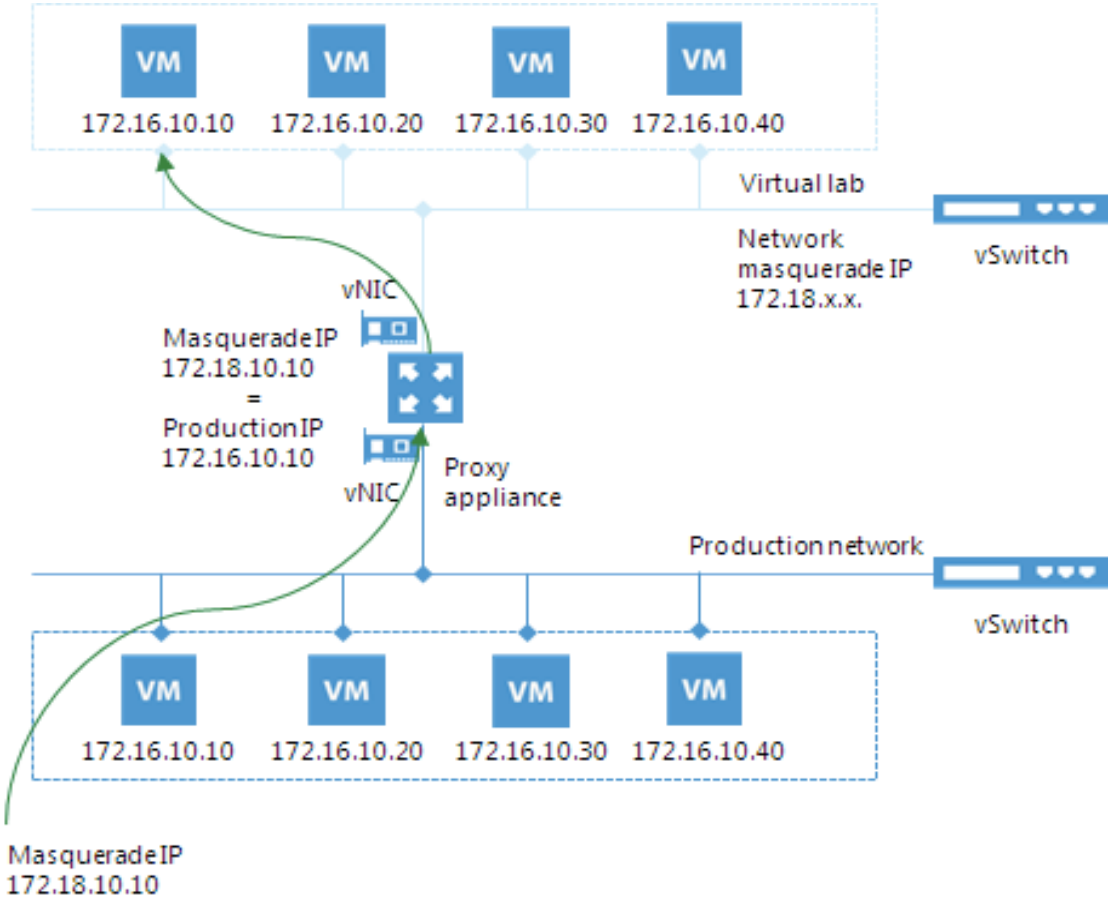
Linked Jobs

- Uses existing backup jobs to simplify VM selection
- Can select one or many jobs
- If no jobs are selected, only Application Group is tested
- Independent Services



Virtual Labs

- Defines which Hypervisor will host the VMs
- Specifies which proxy appliance to use
- Creates Isolated Networks for backup VMs
- Prevents duplicate IP conflict on Production network



SureBackup Job

- Configures proxy network
- Starts VMs
- Tests Application group
- Tests Linked Jobs
- Shutdown VMs
- Cleanup Redo files
- CRC Check backup files
- Send Report Email / SNMP

SureBackup: Exchange SureBackup Job
Daily Verification Job

Session Details

Status	Success	**Start time**	1/12/2017 5:17:39 AM	**Details**
Total tasks	3	**End time**	1/12/2017 5:35:41 AM	
Processed tasks	3	**Duration**	0:18:01	
Successful tasks	3	**Warning tasks**	0	
Failed tasks	0	**Skipped tasks**	0	
Progress	100 %			

Virtual machines status

VM name	Status	Start time	End time	Heartbeat test	Ping test	Custom script test	Validation test
dns01	Success	1/12/2017 5:17:39 AM	1/12/2017 5:21:35 AM	Success	Success	Disabled	Disabled
dc01	Success	1/12/2017 5:17:39 AM	1/12/2017 5:29:04 AM	Success	Success	Success	Success
exch01	Success	1/12/2017 5:17:39 AM	1/12/2017 5:32:51 AM	Success	Success	Success	Success

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Questions?