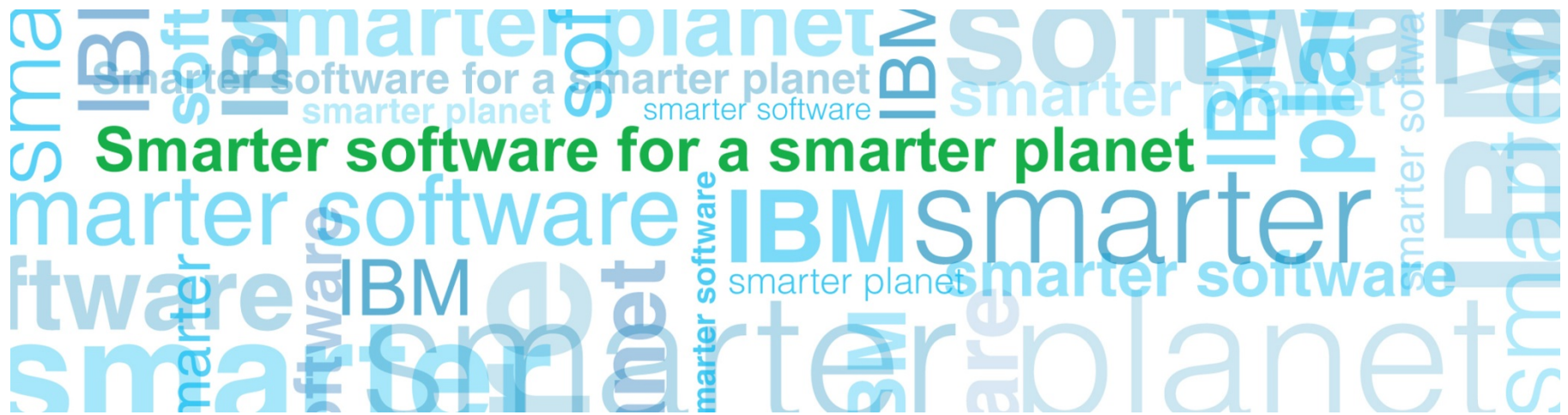


Protecting Your Virtual Environments

Advanced security and recovery management for VMware



Agenda

- Virtualisation today and tomorrow
- Tivoli Storage Manager for Virtual Environments ***New**
- IBM Security Virtual Server Protection
- Question and Answer



3 Key Points

How IBM helps you to achieve:

- business continuity
- risk management and compliance
- improved efficiency and lower costs

It's a virtual world

- 80% of Australian organisations planning or implementing virtualisation
- VMWare is the platform of choice
- Gartner expects exponential growth
 - "There will be more VMs deployed during 2011 than in 2001-2009 combined." ¹
 - "Virtual Machine sprawl is potentially more dangerous than server sprawl" such ease of deployment!



1. Gartner: Server Virtualization: From Virtual Machines to Clouds
http://www.gartner.com/it/content/1462900/1462925/december_14_server_virtualization_tbitman.pdf (Dec 2010)

Are you ready?

- Businesses of all types are facing unprecedented challenges to keep more information available, all the time
 - They can't afford to lose any data, and they can't afford to be without it for very long
 - Losing access to data causes downtime
- The costs of downtime and lost data are escalating:
 - Lost revenue streams and customer confidence
 - Embarrassment in the marketplace
 - Contract penalties, regulatory fines, legal action and even jail

What can go wrong?

- Deleted files
- Corrupted database
- Virus/hacker attack
- Disk crash
- Server crash
- Local disaster
- Regional disaster

Can you quickly recovery from each?



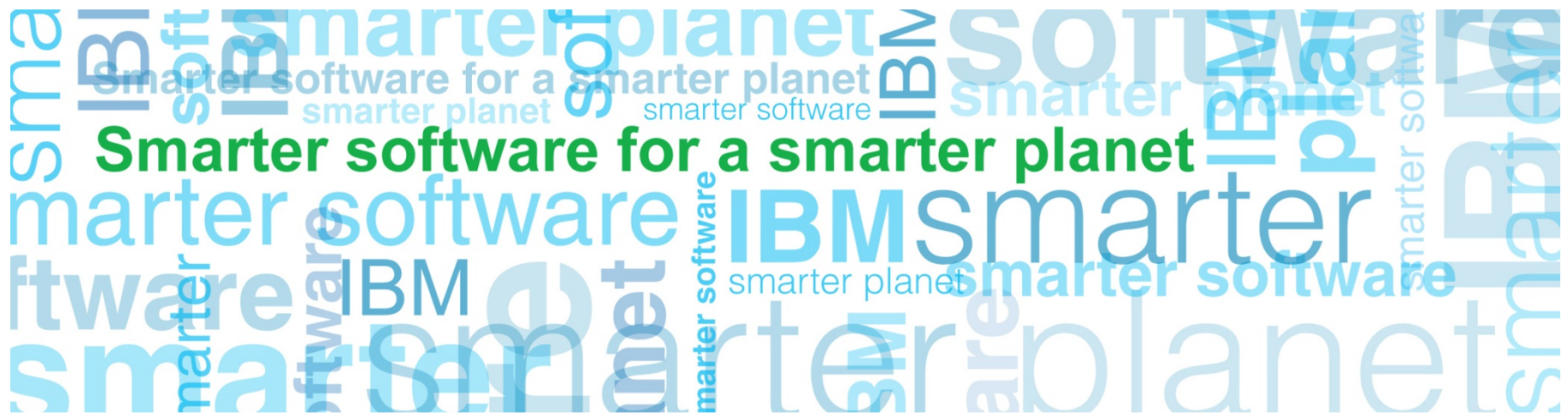
Automating the protection of your VMWare environment

- Reduce errors, speed up operations and improve operational economics
- Standardise and optimise VM backups without load on the servers
- Set security standards based on best practices



Reduce error and risk

Is your backup holding you back?



Jacques Butcher

What I'll cover

- VMware backup history (still supported)
- Introducing IBM Tivoli Storage Manager for Virtual Environments (TSM for VE)
 - Data Protection for VMware
- Data Protection for VMware Backup and Restore Features
- Data Protection for VMware Business Benefits

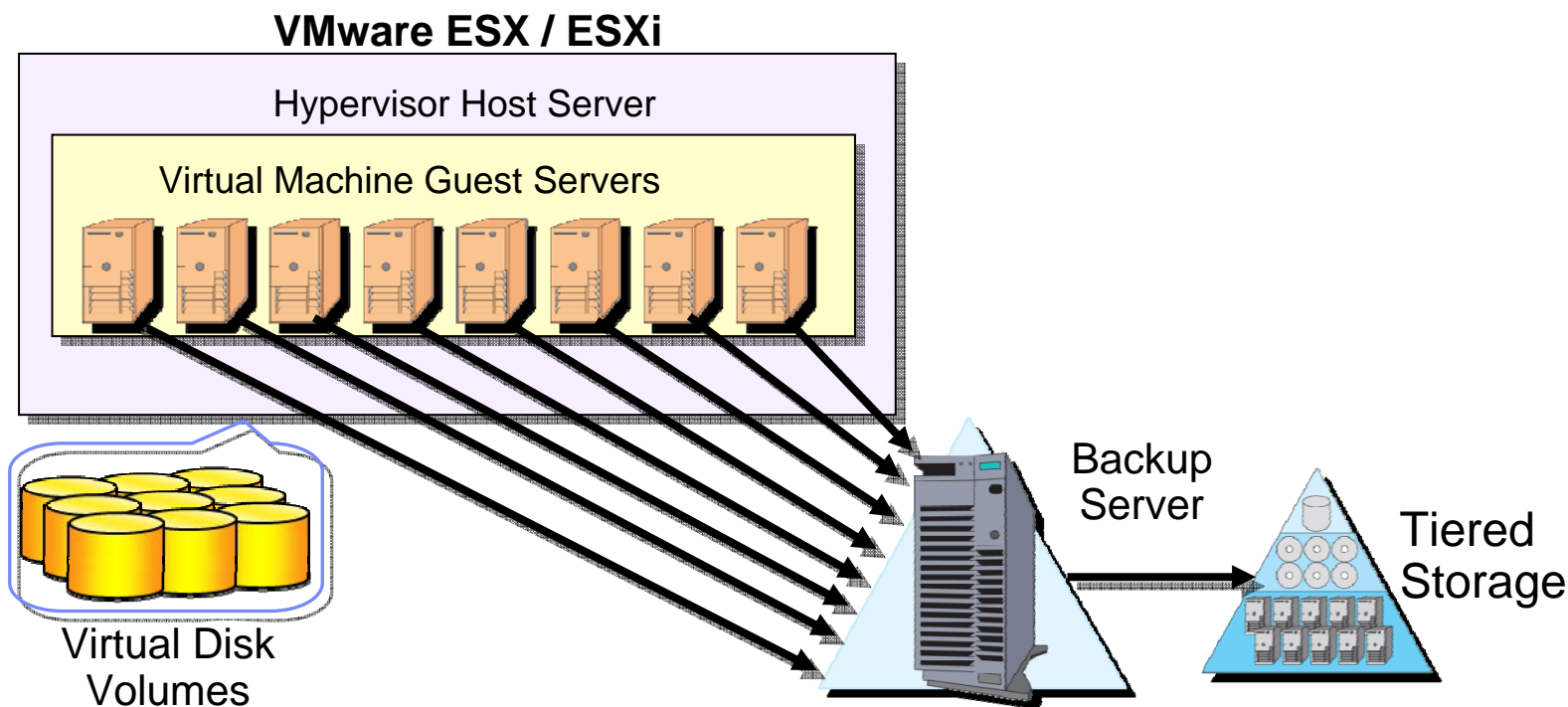


“Virtualized servers have been a boon to the systems side of the house, but a bane for storage managers.”

Hot Technologies for 2011,
STORAGE Magazine, Dec 2010 [\(link\)](#)

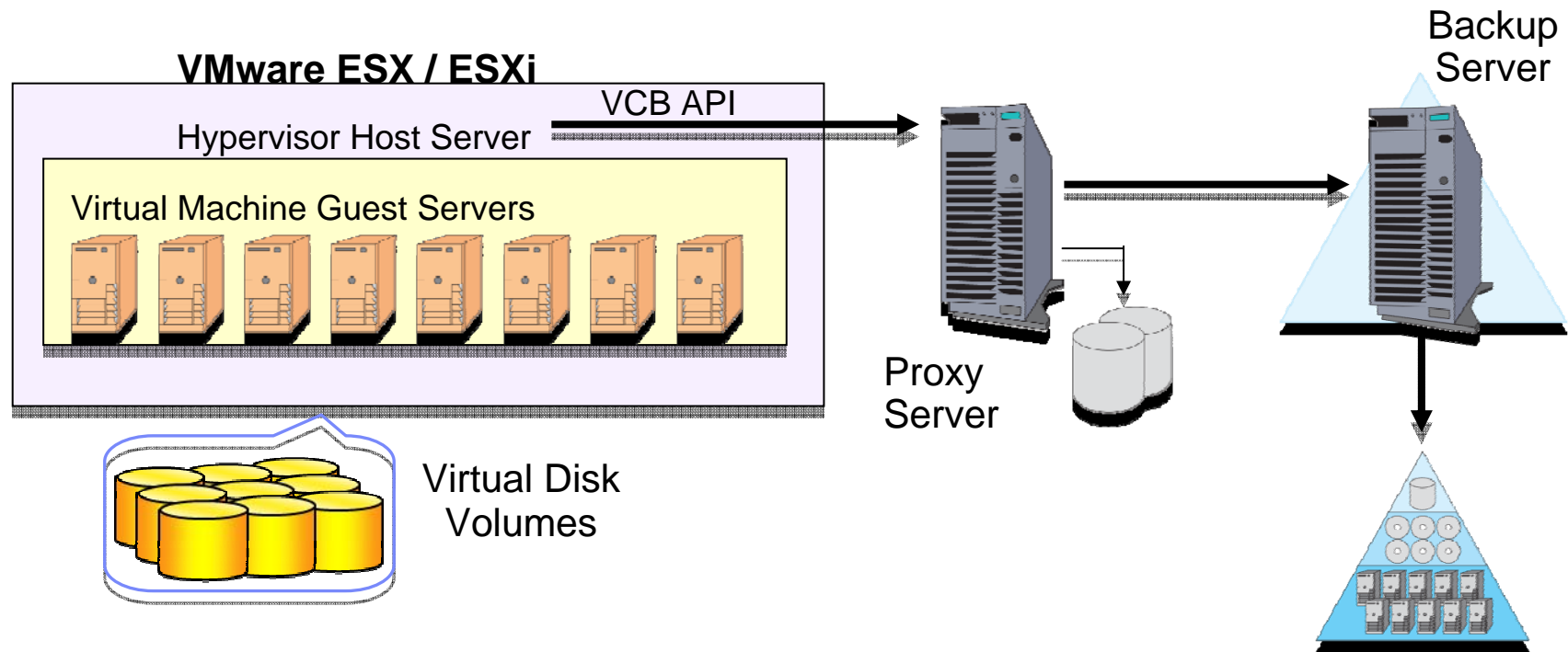
Traditional In-Guest Backup and Recovery Model

- Install a backup agent in the guest OS, just like a physical server
- Run and manage backups just like in a physical server environment
- **Downside:** deploying, managing, maintaining 'backup agent sprawl'
- **Downside:** can put a serious drain on processor, memory, I/O resources
- **Downside:** full system recoveries are time consuming



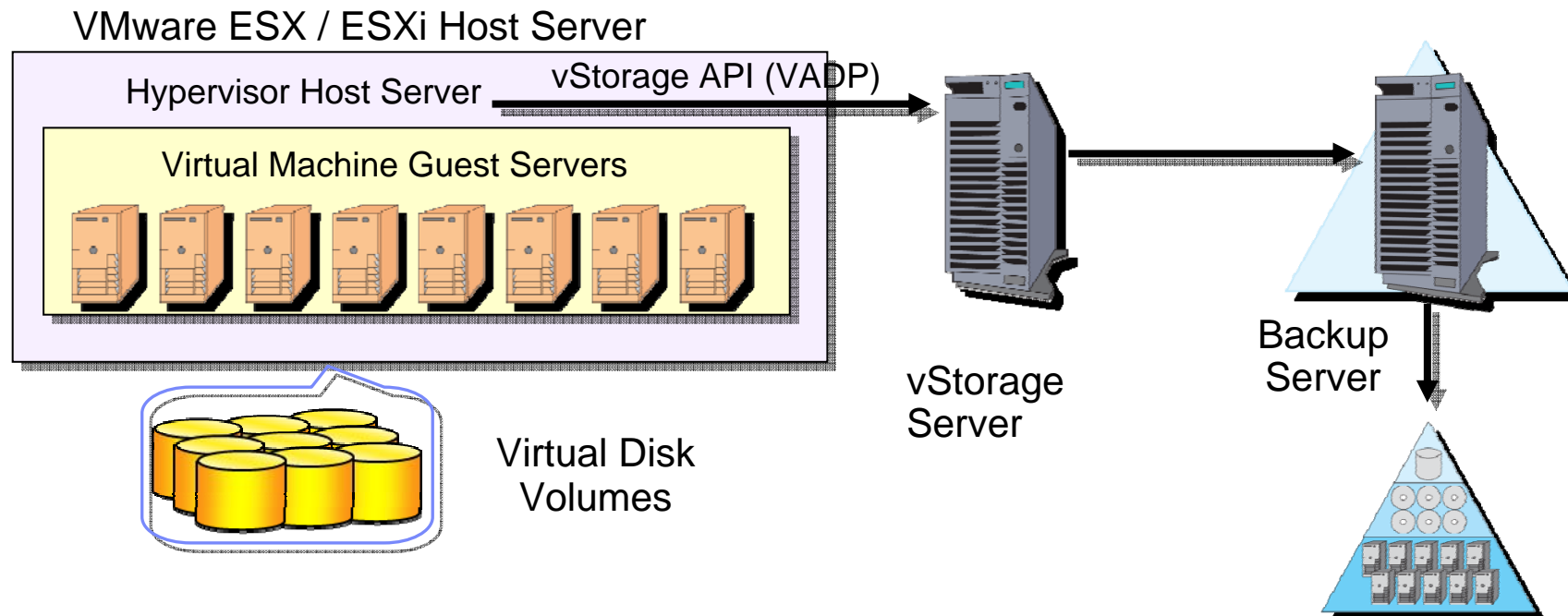
Interim solution – VMware Consolidated Backup (VCB)

- Snapshots of the VMs are taken by the Hypervisor and sent to a Proxy Server, which is then backed up by the Backup Server
- **Downside:** requires more hardware (server and storage)
- **Downside:** multi-step recovery through the Proxy Server



The new approach: VMware vStorage APIs for Data Protection (VADP)

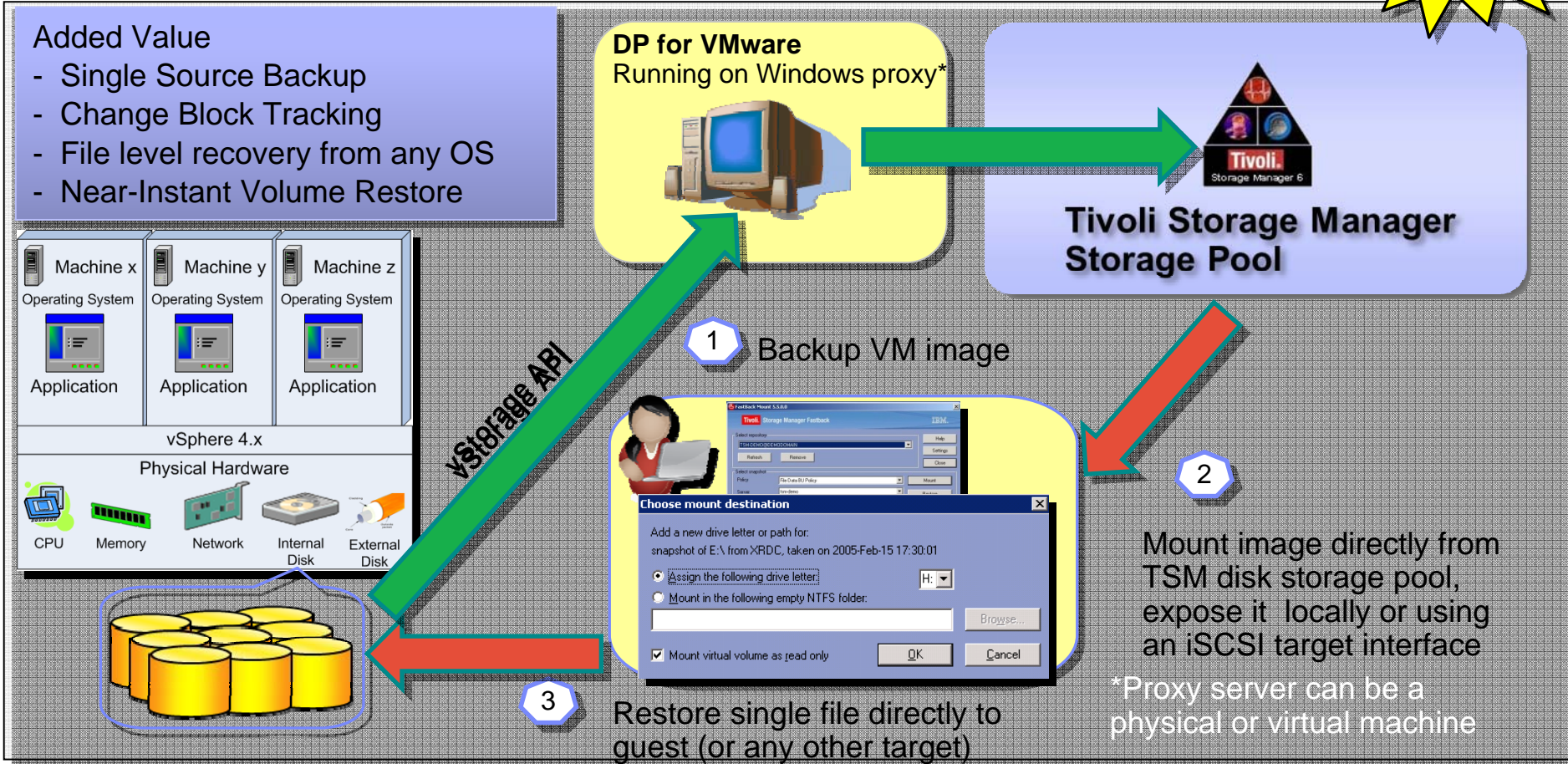
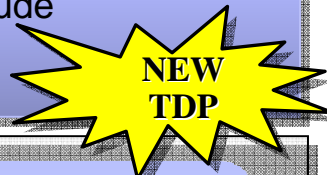
- Data is accessed directly from the VM storage and passed directly to the backup server (single hop, data is not stored on the vStorage Server)
- Changed Block Tracking allows incremental backups (with periodic fulls) without forcing a scan of the guest OS file system
- The vStorage Server can be a virtual machine – no additional HW needed



Introducing TSM for VE (Data Protection for VMware)

Support **multiple recovery options** from image backup and vStorage API change block tracking (CBT)
 New TSM for * (additional component) enhancing the b/a client (Windows only) support to include

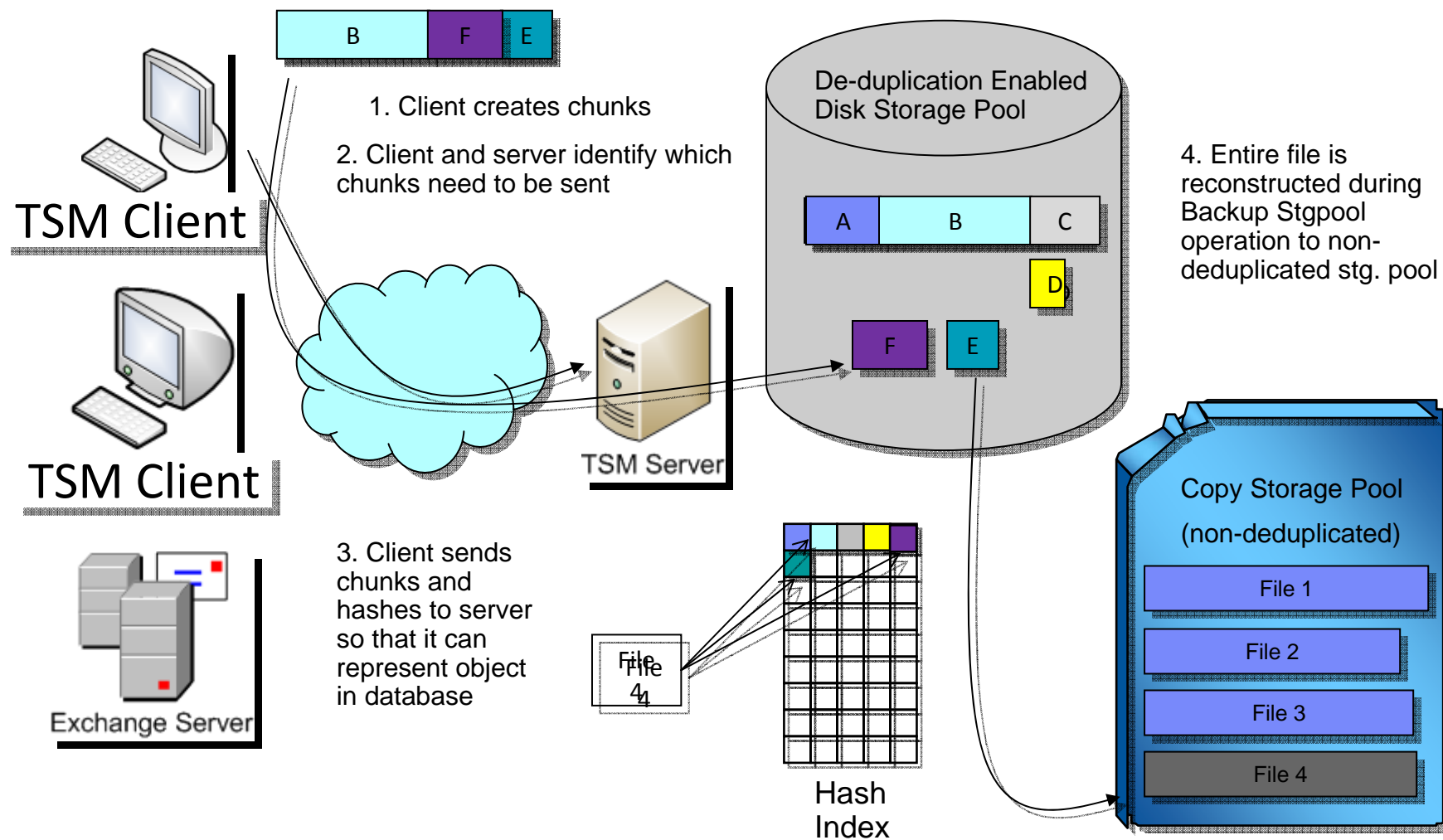
- CBT allowing incremental backups (with periodic block-level full backups)
- File/Volume/Disk/Full VM restores from an image backup (multiple OSs are supported)



TSM for VE (Data Protection for VMware) Features

- Supports all guest-OS platforms
- Complete full snapshot of 'live' (running) virtual machine with pre/postsnapshot support (VMware tools)
- When Installing TSM B/A Client on physical backup proxy (off-host)
 - Backup load (CPU, memory and disk I/O) off-loaded from ESX server
 - LAN-Free
- VMotion aware
- Supported transports (data transfer path) SAN, HotAdd, LAN
 - Auto detected with vStorage APIs
- Backup proxy
 - Physical or virtual machine running on guest VM
- Interface
 - Backup/Restore via command line from backup proxy via BACKUP/RESTORE VM commands
 - Backup/Restore GUI from backup proxy, displays all VM's available for backup/restore

TSM Client Side Data De-duplication



Can be used in conjunction with VMware backups

Tivoli Storage Manager for Virtual Environments Business Benefits

- Reduces costs associated with implementation and administration
 - No additional hardware required
 - Automated discovery of new VMs ensuring your environment remains protected
 - Simplified agent management with the centralized IBM Tivoli® Storage Manager console and one agent supports multiple VMs

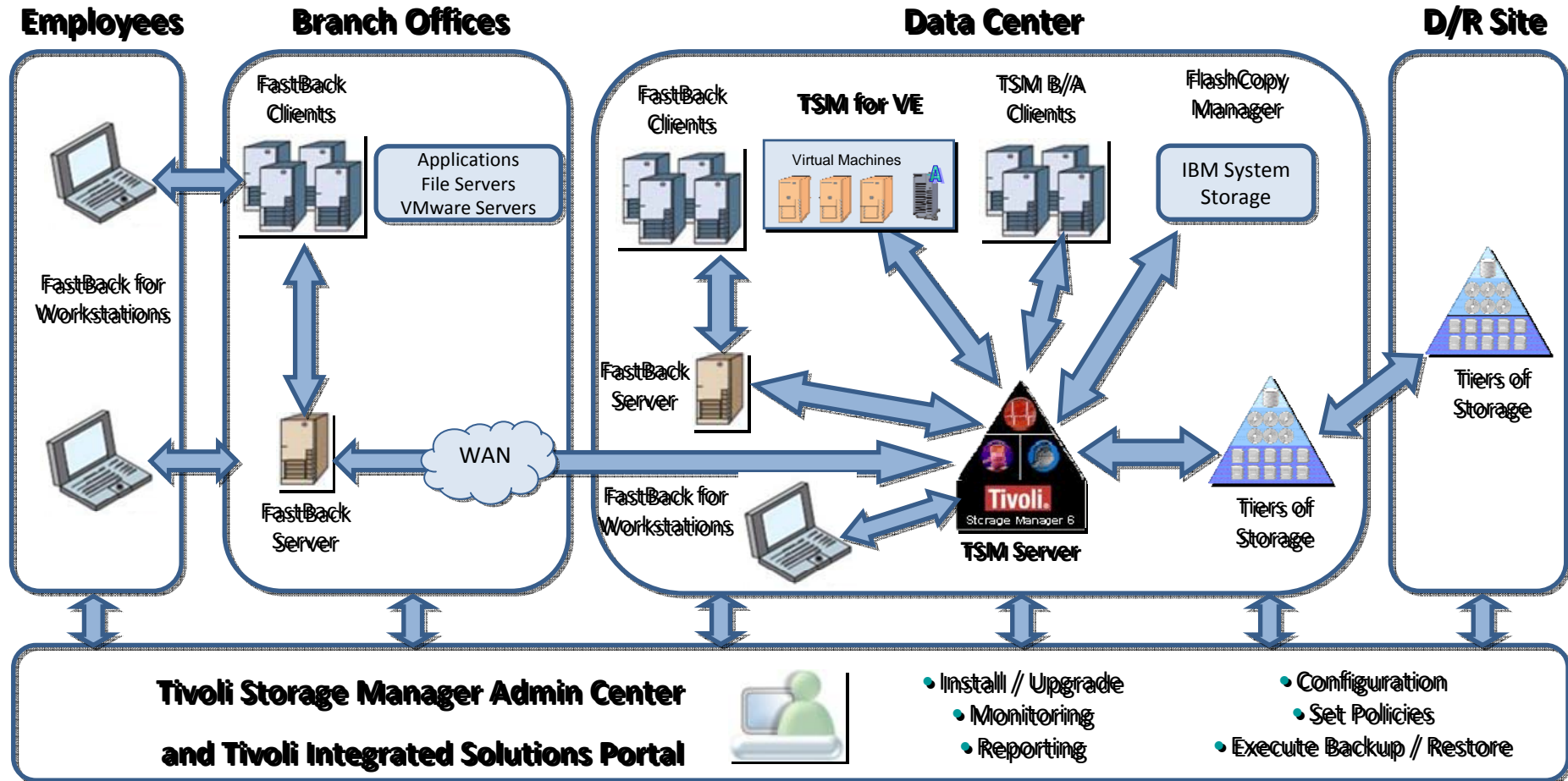
Tivoli Storage Manager for Virtual Environments Business Benefits

- Reduces costs associated with implementation and administration
- Improves RTOs and RPOs
 - Leverages vStorage APIs for Data Protection (VADP) and Change Block Tracking (CBT)
 - Non-disruptive, single-pass, content-aware, block-level backup enabling faster, more frequent protection for virtual machines
 - Flexible recovery options: file, volume, VM image (BMR)
 - Near-instant restore of files and disk volumes (Windows and Linux)
 - Support for LAN-free data transfer from the VMware server's storage to the backup server - preserving bandwidth for other uses

Tivoli Storage Manager for Virtual Environments Business Benefits

- Reduces costs associated with implementation and administration
- Improves RTOs and RPOs
- Frees up valuable server resources
 - ‘Near Zero Impact Backup’ - Offload the backup workload from virtual machines and production VMware ESX hosts to vStorage backup proxy servers

IBM Unified Recovery Management



Peace of mind – purpose-built for VMware



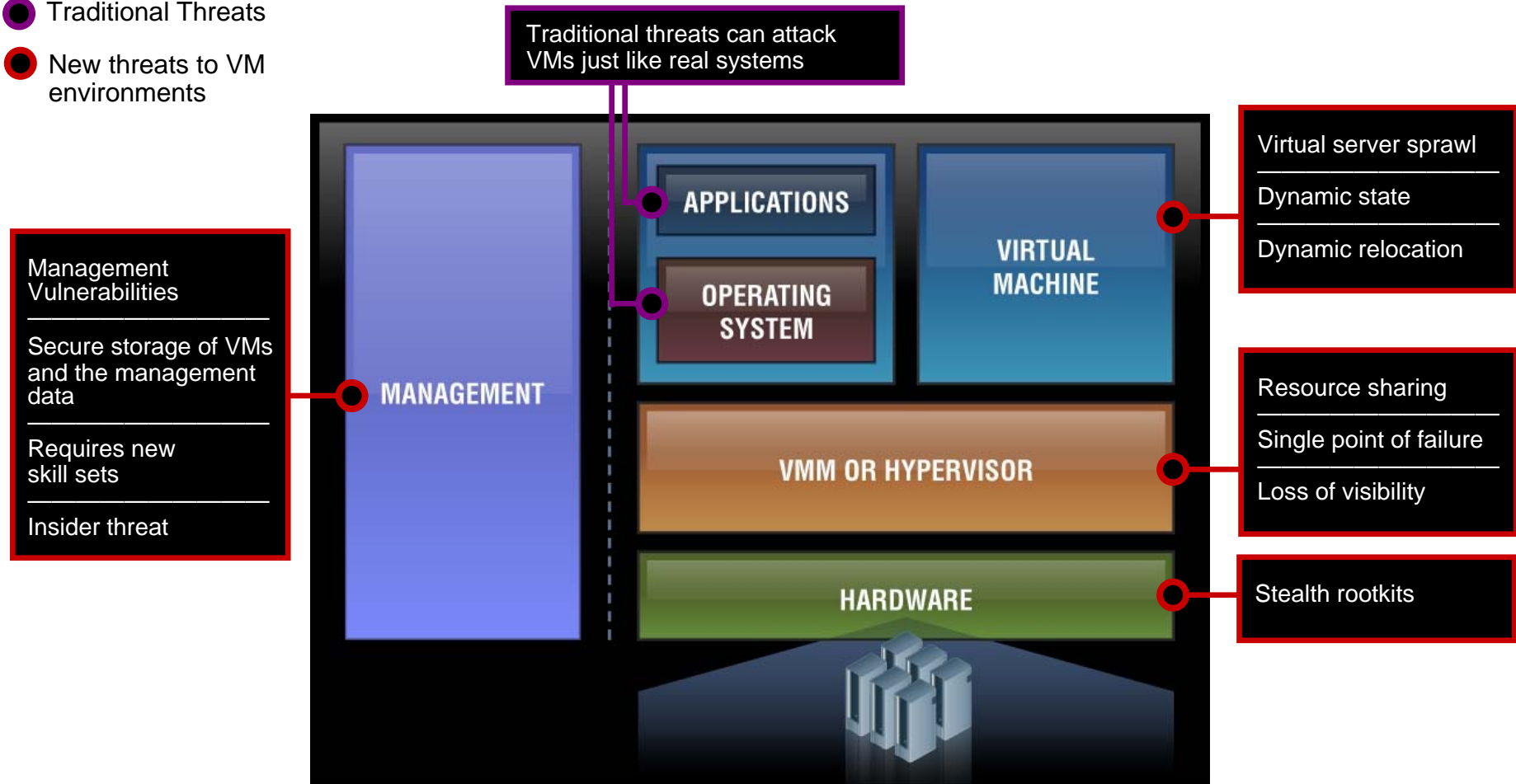
Chee-Nung Wong

What I'll cover

- New Risks Associated with Server Virtualisation
- Limitations of Traditional Security Controls
- Securing Virtual Environments with IBM Solutions
 - IBM X-Force
 - IBM Security Virtual Server Protection

Security Challenges with Virtualisation: New Risks

- Traditional Threats
- New threats to VM environments

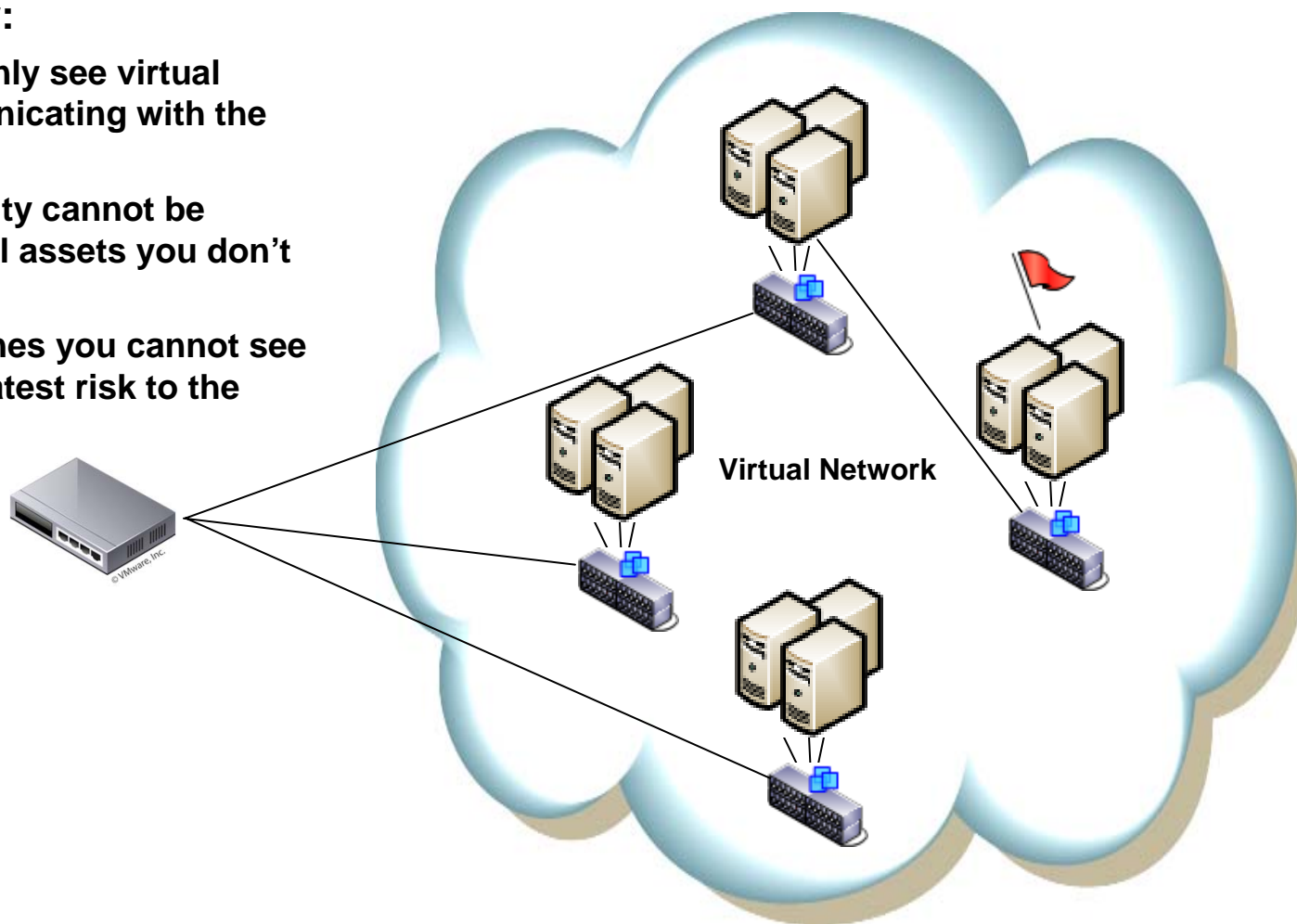


MORE COMPONENTS = MORE EXPOSURE

Limitations of Existing Controls and Processes

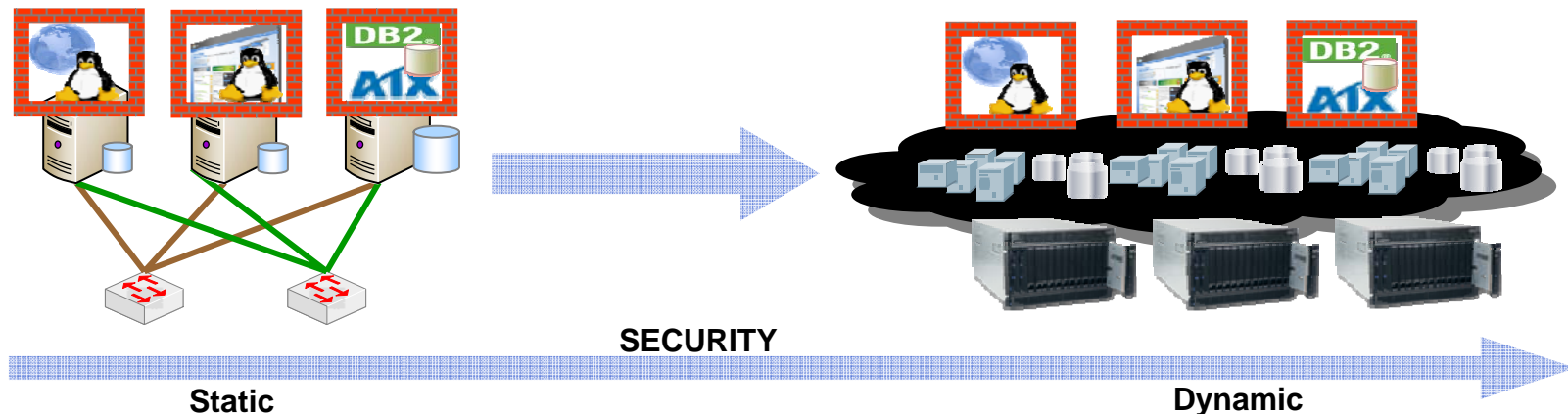
Impact on Security:

- Discovery tools only see virtual machines communicating with the physical network
- Host-based security cannot be deployed to virtual assets you don't know about
- The virtual machines you cannot see represent the greatest risk to the environment



Security Must Evolve

<i>Physical</i>		<i>Virtualised</i>	
Network IPS	Blocks threats and attacks at the perimeter	Network IPS	Should protect against threats at perimeter and between VMs
Server Protection	Secures each physical server with protection and reporting for a single agent	Server Protection	Securing each VM as if it were a physical server adds time, cost and footprint
System Patching	Patches critical vulnerabilities on individual servers	System Patching	Needs to protect against vulnerabilities that result from VM state changes
Security Policies	Policies are specific to critical applications in each network segment and server	Security Policies	Policies must be able to move with the VMs

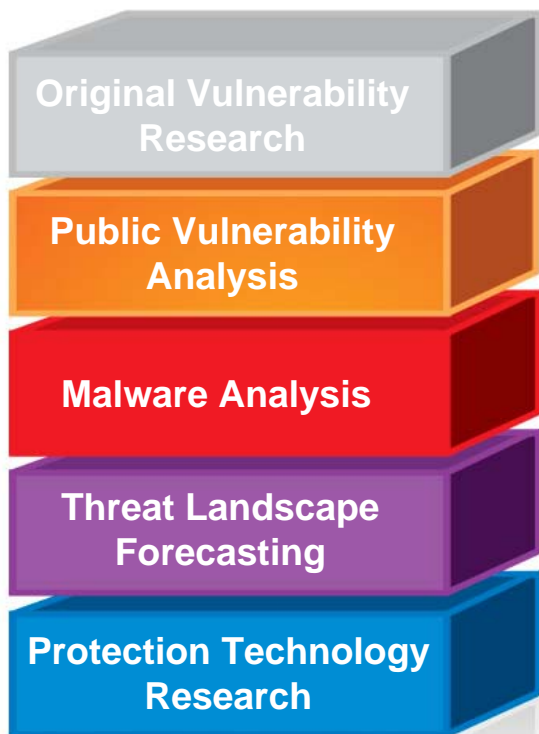


The X-Force team Drives IBM ISS Security Innovation

Research

Technology

Solutions



X-Force Protection Engines

- Extensions to existing engines
- New protection engine creation

X-Force XPU's

- Security Content Update Development
- Security Content Update QA

X-Force Intelligence

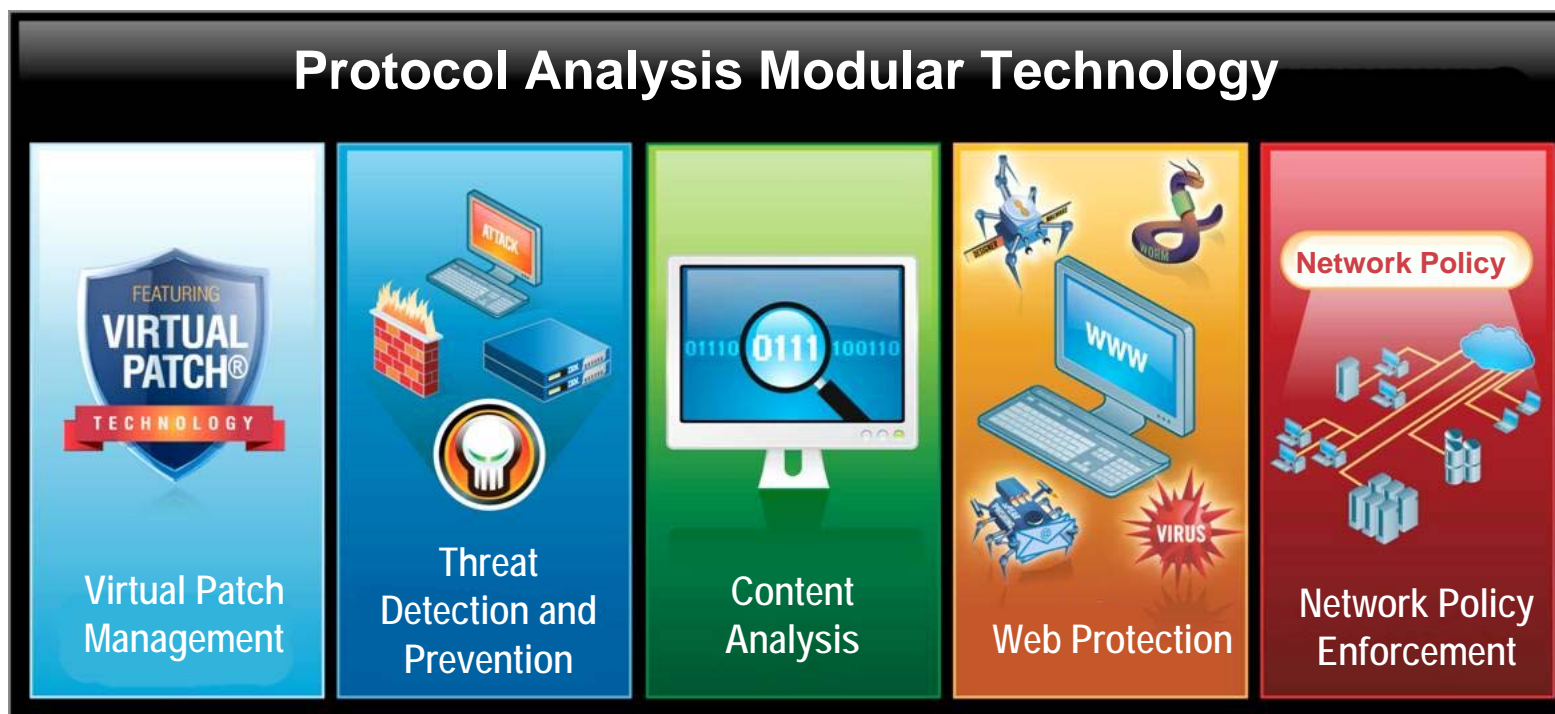
- X-Force Database
- Feed Monitoring and Collection
- Intelligence Sharing



Protocol Analysis Module (PAM) clearly differentiates our IBM Internet Security Systems™ from others.

The Protocol Analysis Module (PAM)

PAM is the engine behind the preemptive protection afforded by many of the solutions of the IBM Proventia product family. PAM is comprised of five key technologies.

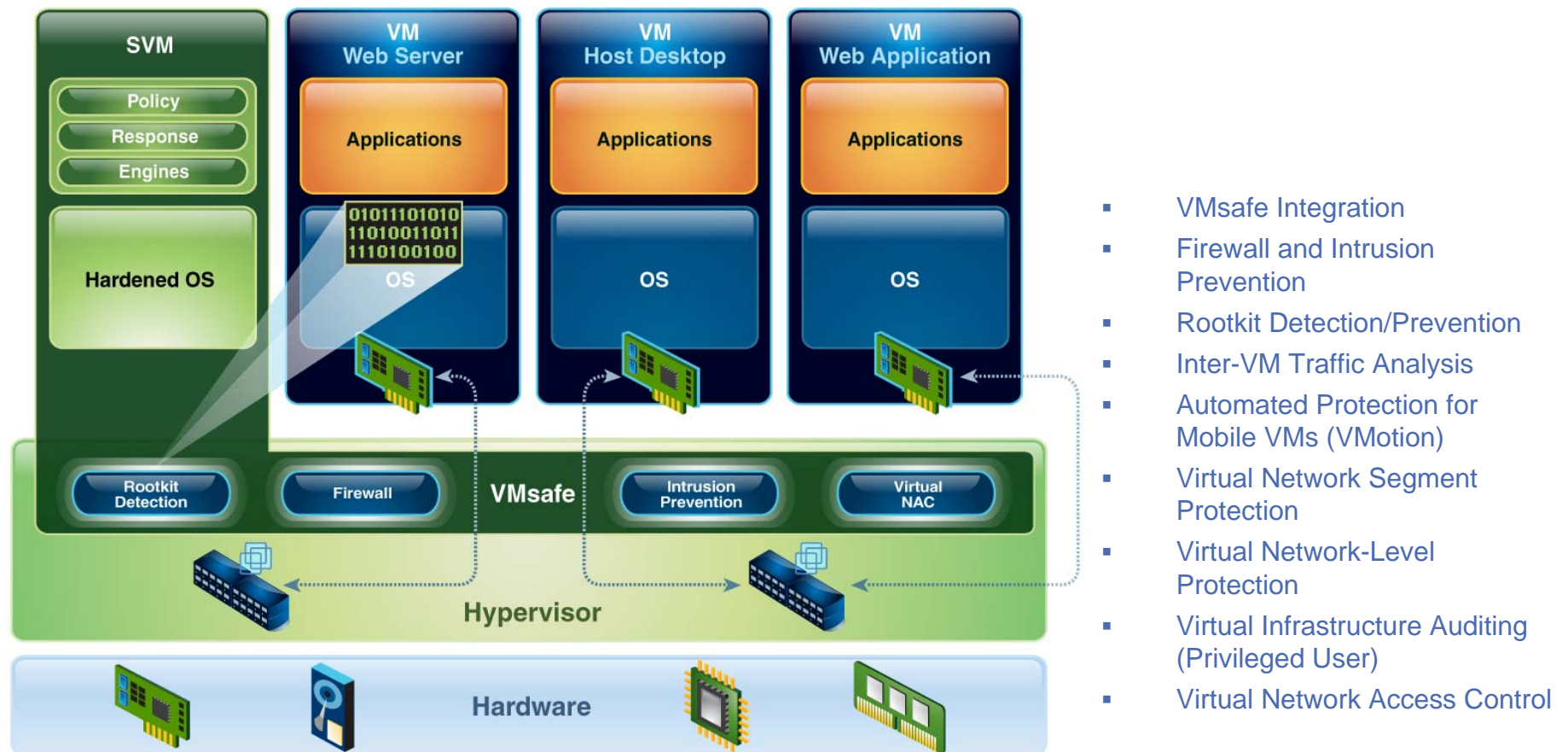


IBM Solution For Virtual Server Protection

Introducing IBM Virtual Server Protection for VMware

Integrated threat protection for VMware vSphere 4

Helps customers to be more secure, compliant and cost-effective by delivering integrated and optimised security for virtual data centers.

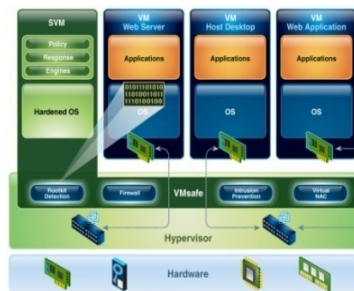


Three reasons you need virtualisation infrastructure protection

Need

How IBM Virtual Server Protection for VMware® helps

Mitigate new risks and complexities introduced by Virtualisation



Provides dynamic protection for every layer of the virtual infrastructure

Maintain compliance standards and regulations



Helps meet regulatory compliance by providing security and reporting functionality customised for the virtual infrastructure

Drive operational efficiency

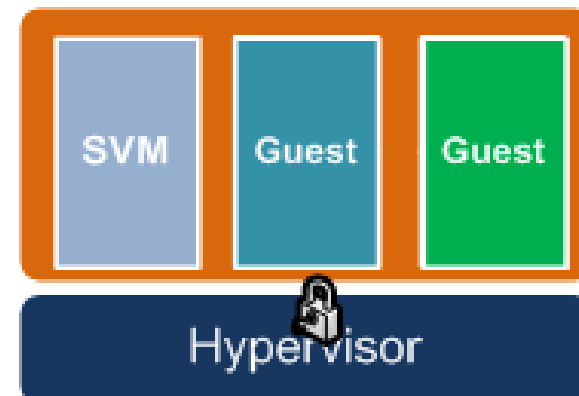
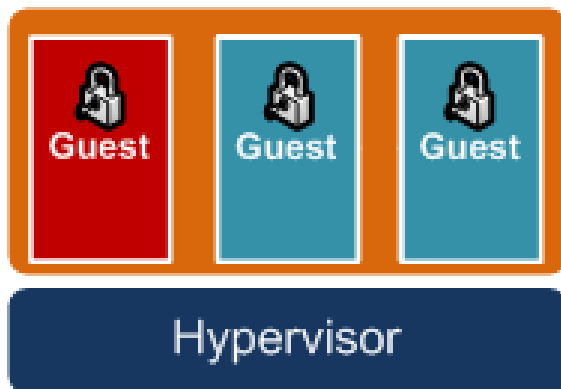


Increases ROI of the virtual infrastructure

Host-based vs. Integrated Virtual Server Protection

<i>Host-Based Agent</i>	
Isolation	Firewall functions only in the context of the VM
Attack Prevention	Requires agent to be present
VM State	Security is impacted by VM state change
Security Policies	Policy is enforced only within the VM

<i>Virtual Server Protection</i>	
Isolation	Firewall enforces virtual network-wide policy
Attack Prevention	Secures all virtual machines automatically
VM State	Security is not impacted by VM state change
Security Policies	Policy is enforced outside of the VM and irrespective of the VMs location



Summary

- Virtualisation does impact security posture
- New products adapted for virtual environments are available
- Consider your wider network security strategy

3 Key Points

- Business continuity
 - Tivoli Storage Manager for Virtual Environments for fast disaster recovery
- Risk management and compliance
 - IBM Security Virtual Server Protection
- Improved efficiency and lower costs
 - Automate and leverage best practices



Talk to us if you

- Have data retention or security compliance requirements
- Are unsure if important documents/files being missed from backup schedules
- Have backups impacting your applications
- Avoid restores because “its just too hard”
- Need to ensure that hypervisor access is monitored
- Need extra protection against malware and intrusion detection
- Have lost confidence that all VMs have the needed patches

Talk to us if you

- Are interested in a storage assessment
- Would like to book a demonstration
- Want to take advantage of discounts up to 50% off the RRP for these software solutions

- Online for more information
 - [Tivoli Storage Manager for Virtual Environments](#)
 - [IBM Security Virtual Server Protection for VMWare](#)

Thank you
and questions!



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