Disaster

What is it?

Any natural or man-mad event that disrupts the operations of a business in such significant way that a considerable and coordinated effort is required to achieve a recovery

(Barnes, 2001)

Not Just Natural Disaster

Power Failures	26%
Hardware Failures	19%
Network Outages	10%
Software Failures	9%
Human Errors	8%
Everything else	30%

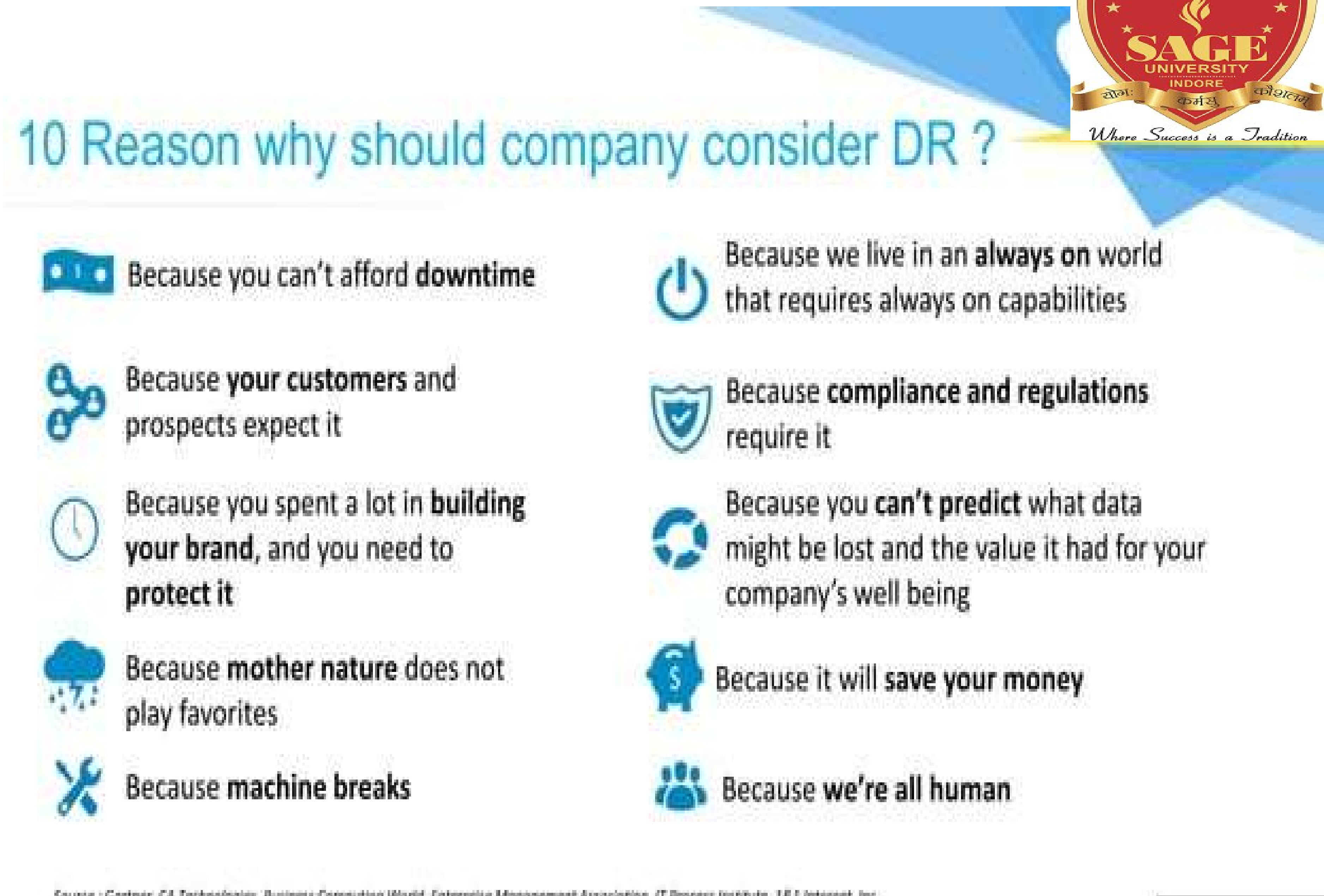
Why Downtime Matters

43% of businesses experiencing a disaster never reopen, and almost 30% of those that do close within 2 years

Source : McGladrey and Pullen, LLP – a Consulting Company

93% of businesses that lost their datacenter for 10 days went bankrupt within 1 year

Source : US National Archives and Record Administration



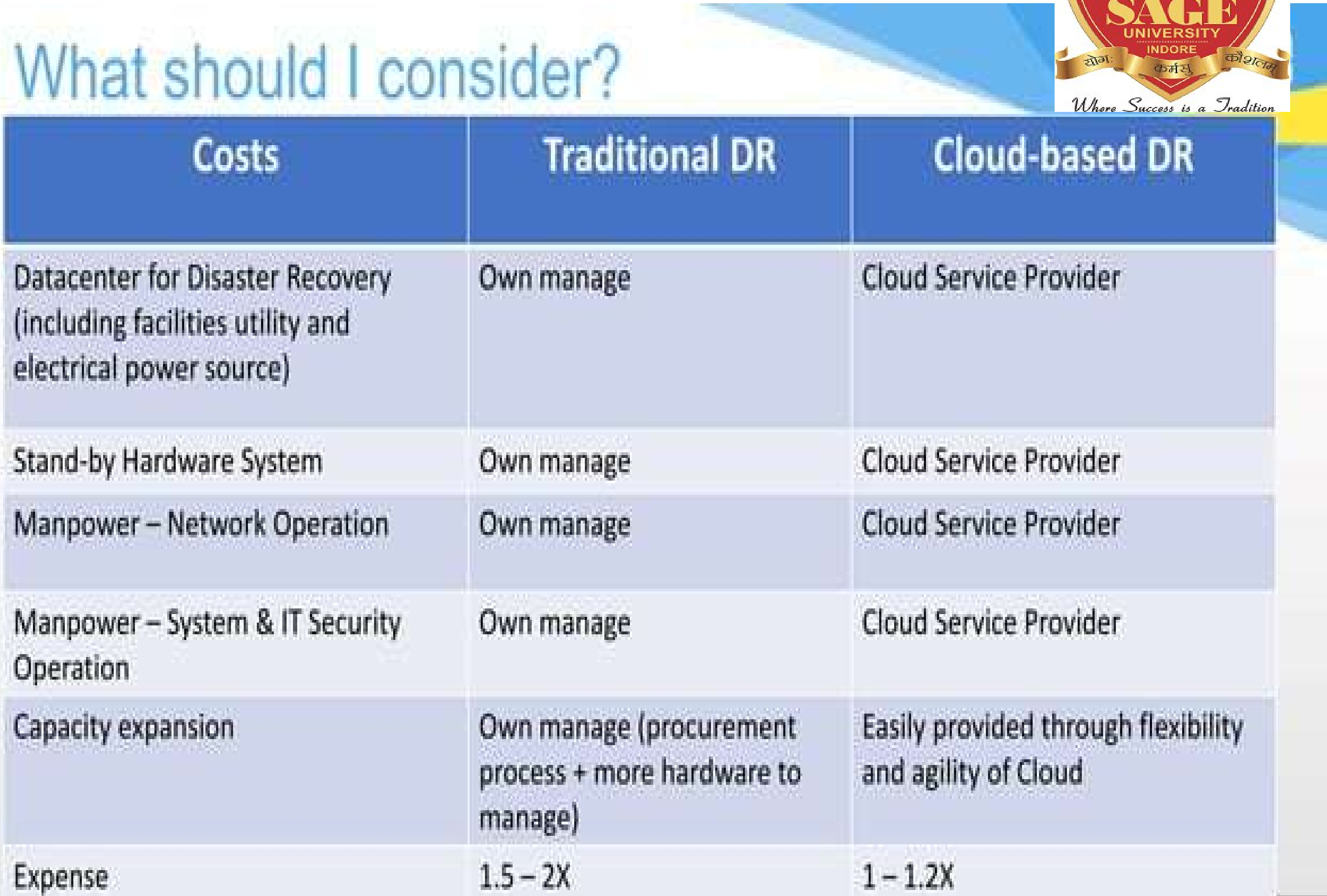
10 Reason why should company consider DR ?

- Because you can't afford **downtime**
- Because **your customers** and prospects expect it
- Because you spent a lot in **building your brand**, and you need to **protect it**
- Because **mother nature** does not play favorites
- Because **machine breaks**
- Because we live in an **always on** world that requires always on capabilities
- Because **compliance and regulations** require it
- Because you **can't predict** what data might be lost and the value it had for your company's well being
- Because it will **save your money**
- Because **we're all human**

Source : Gartner, CA Technologies, Business Computing World, Enterprise Management Association, IT Process Institute, 1&1 Internet, Inc

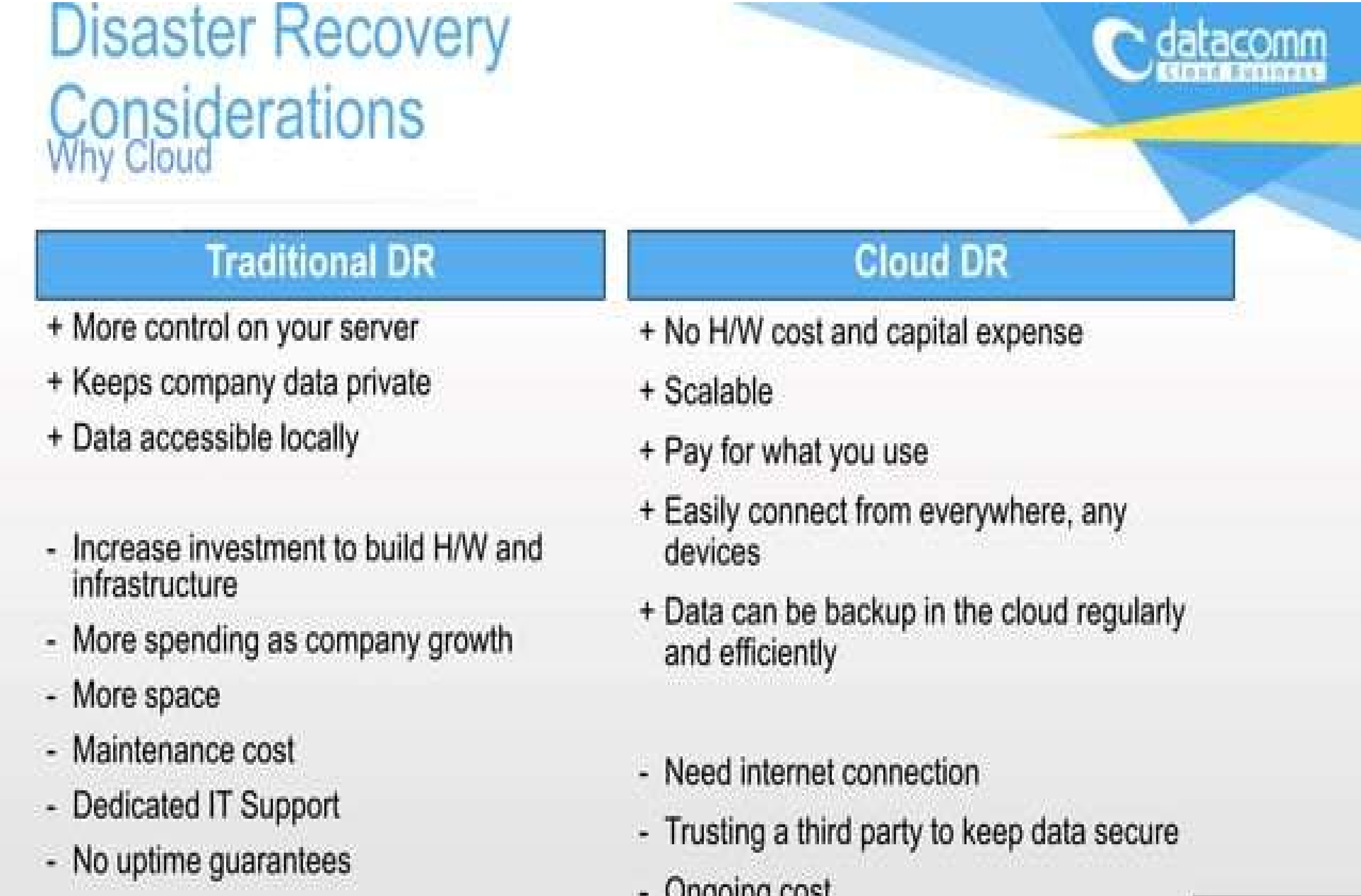
DR Challenges

- Too many moving parts and complexity
- Lack of automation – reliance on manual execution
- Driving without dials – no real time meters to monitor DR service
- DR drills are expensive and impact production



What should I consider?

Costs	Traditional DR	Cloud-based DR
Datacenter for Disaster Recovery (including facilities utility and electrical power source)	Own manage	Cloud Service Provider
Stand-by Hardware System	Own manage	Cloud Service Provider
Manpower – Network Operation	Own manage	Cloud Service Provider
Manpower – System & IT Security Operation	Own manage	Cloud Service Provider
Capacity expansion	Own manage (procurement process + more hardware to manage)	Easily provided through flexibility and agility of Cloud
Expense	1.5 – 2X	1 – 1.2X



Disaster Recovery Considerations

Why Cloud

datacomm
Cloud Business

Traditional DR

+ More control on your server
+ Keeps company data private
+ Data accessible locally

- Increase investment to build H/W and infrastructure
- More spending as company growth
- More space
- Maintenance cost
- Dedicated IT Support
- No uptime guarantees

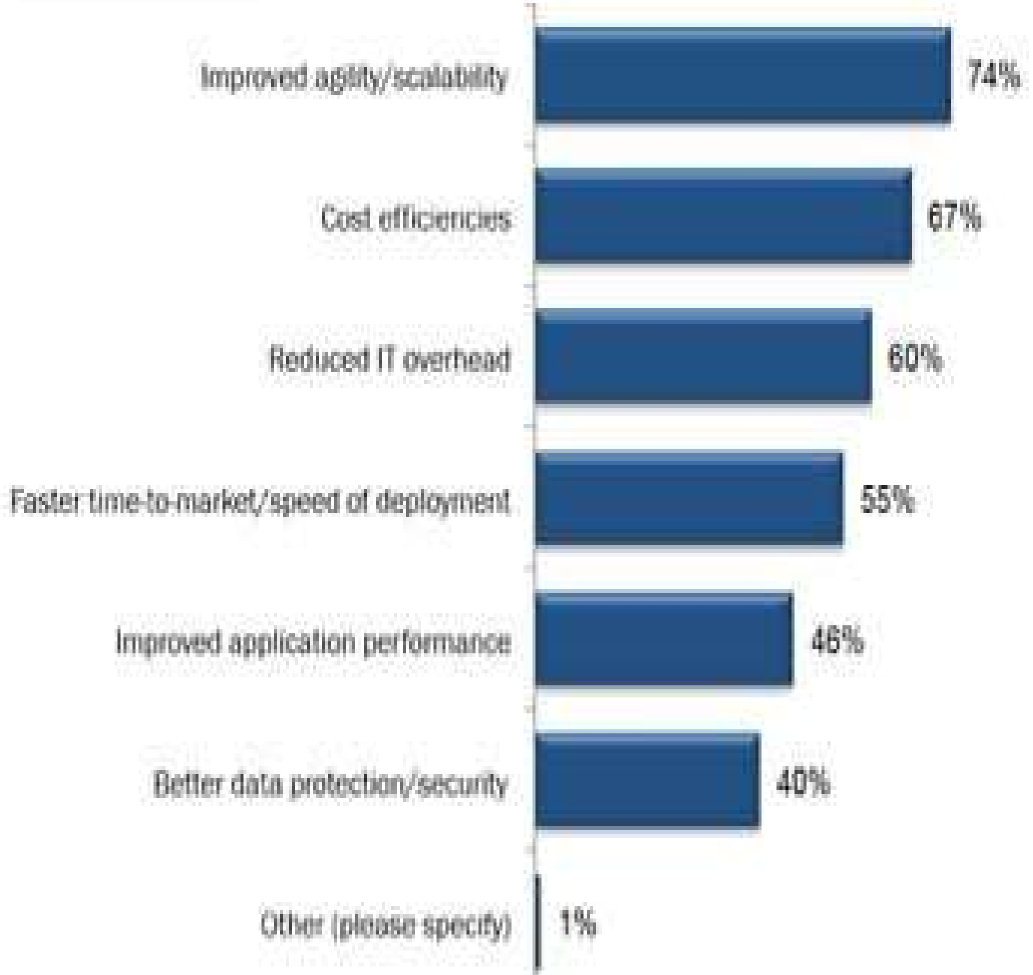
Cloud DR

+ No H/W cost and capital expense
+ Scalable
+ Pay for what you use
+ Easily connect from everywhere, any devices
+ Data can be backup in the cloud regularly and efficiently

- Need internet connection
- Trusting a third party to keep data secure
- Ongoing cost

Disaster Recovery On Cloud

Why cloud ?



Recovery Time and Recovery Point Objective

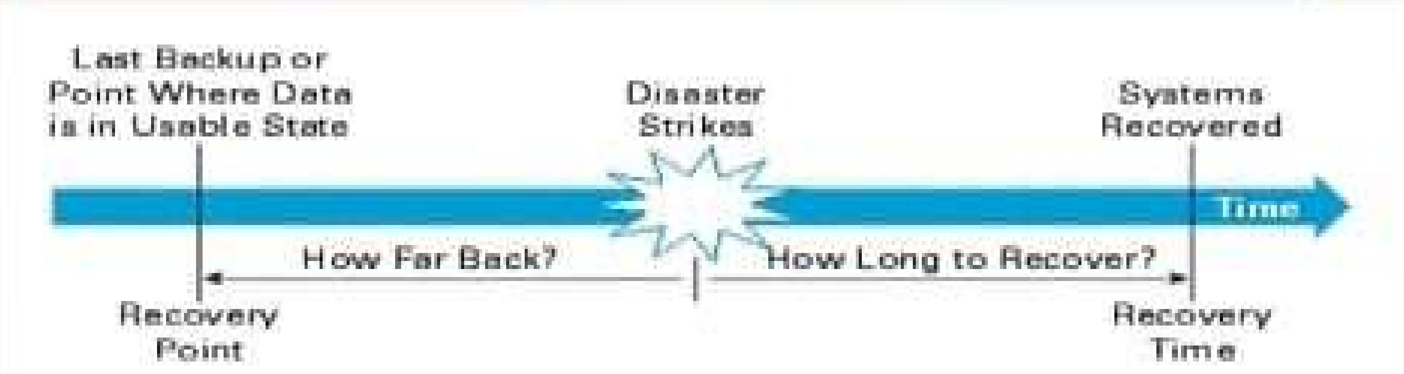
What is RTO and RPO

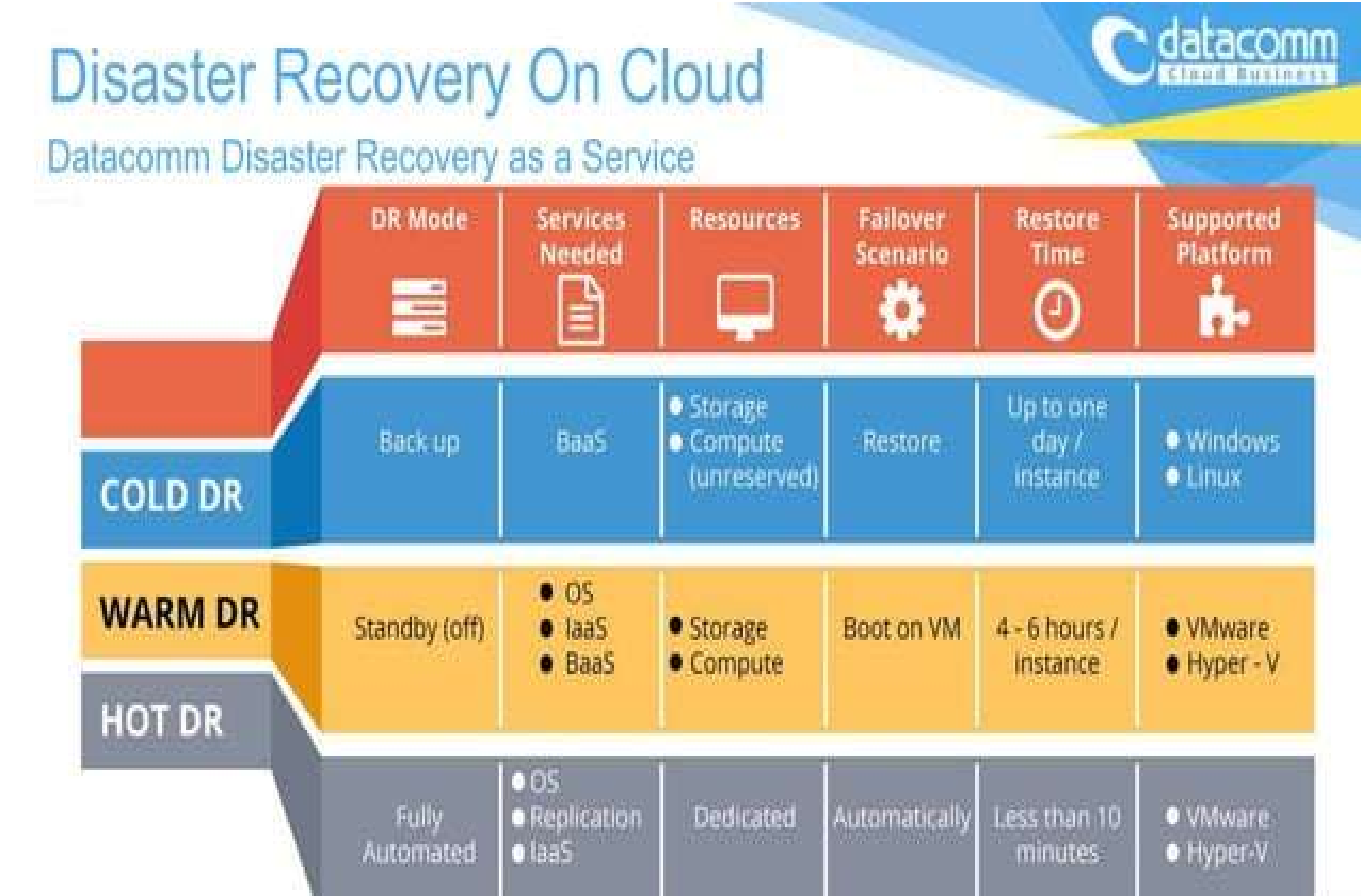
Recovery Time Objective

- RTO for an application is the goal for how quickly you need to have that application's information back available after downtime has occurred

Recovery Point Objective

- RPO for an application describes the point in time to which data must be restored to successfully resume processing(often thought of as time between last backup and when a disaster occurred)





Disaster Recovery On Cloud

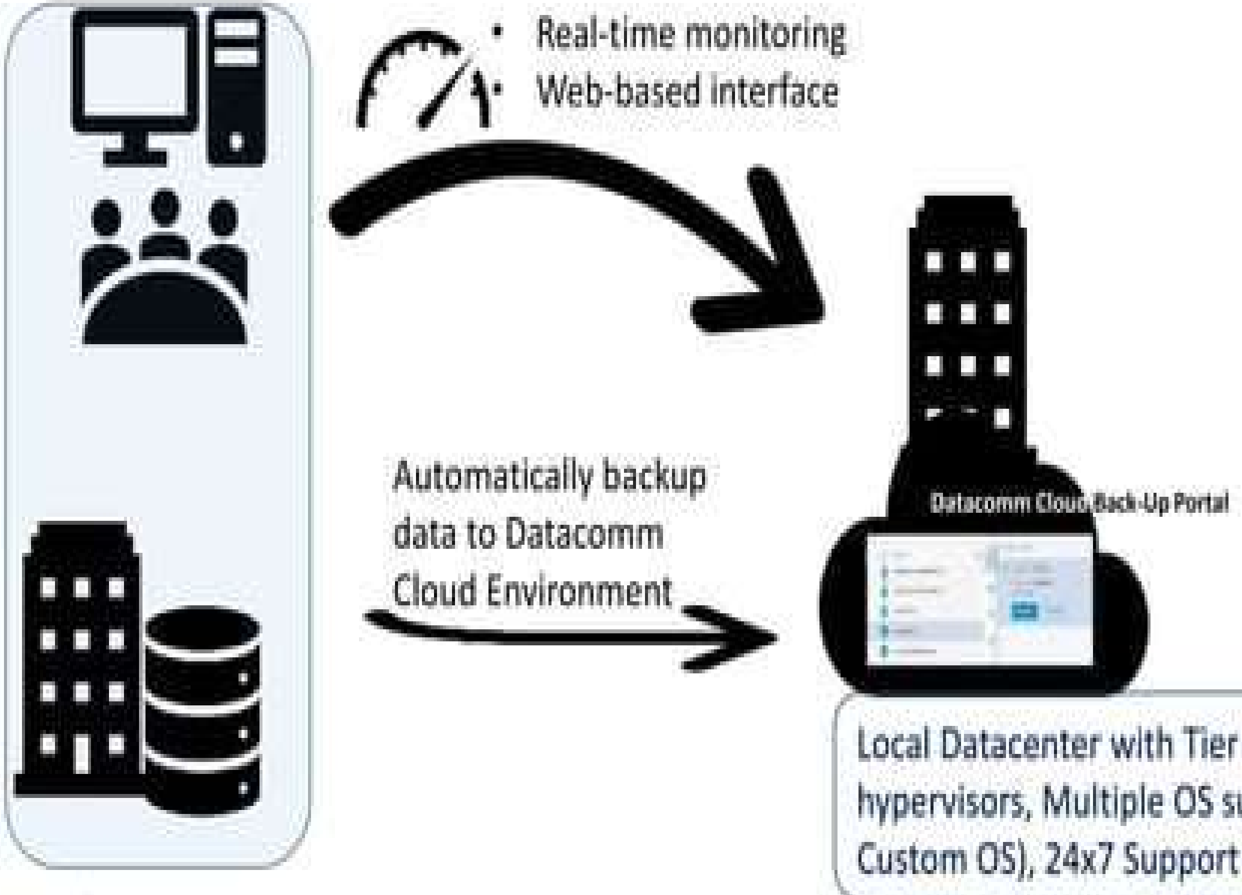
Datacomm Disaster Recovery as a Service

	DR Mode	Services Needed	Resources	Failover Scenario	Restore Time	Supported Platform
COLD DR	Back up	BaaS	● Storage ● Compute (unreserved)	Restore	Up to one day / instance	● Windows ● Linux
WARM DR	Standby (off)	● OS ● IaaS ● BaaS	● Storage ● Compute	Boot on VM	4 - 6 hours / instance	● VMware ● Hyper - V
HOT DR	Fully Automated	● OS ● Replication ● IaaS	Dedicated	Automatically	Less than 10 minutes	● VMware ● Hyper-V

datacomm
Cloud Business

Disaster Recovery On Cloud

Datacomm Disaster Recovery as a Service



- Real-time monitoring
- Web-based interface

Automatically backup data to Datacomm Cloud Environment

Datacomm Cloud Back-Up Portal

Local Datacenter

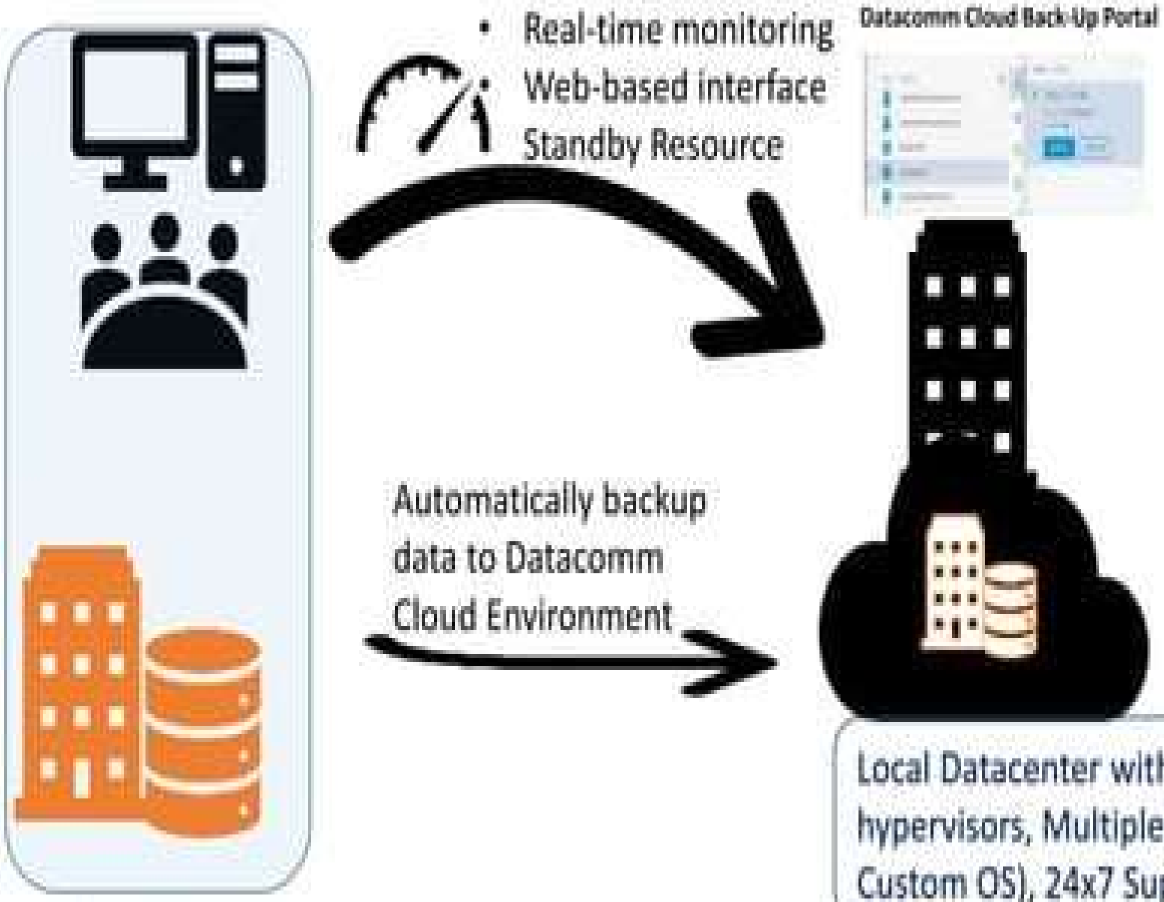
COLD

- ❖ Based on your capacity expectation
- ❖ Backup to cloud storage
- ❖ Restore as Virtual Machine is an optional
- ❖ Internet-based control portal

Local Datacenter with Tier III Design, KVM & Vmware hypervisors, Multiple OS supported (Microsoft, Linux, Custom OS), 24x7 Support (NOC & SOC),

Disaster Recovery On Cloud

Datacomm Disaster Recovery as a Service



- Real-time monitoring
- Web-based interface
- Standby Resource

Datacomm Cloud Back-Up Portal

Automatically backup data to Datacomm Cloud Environment

Local Datacenter

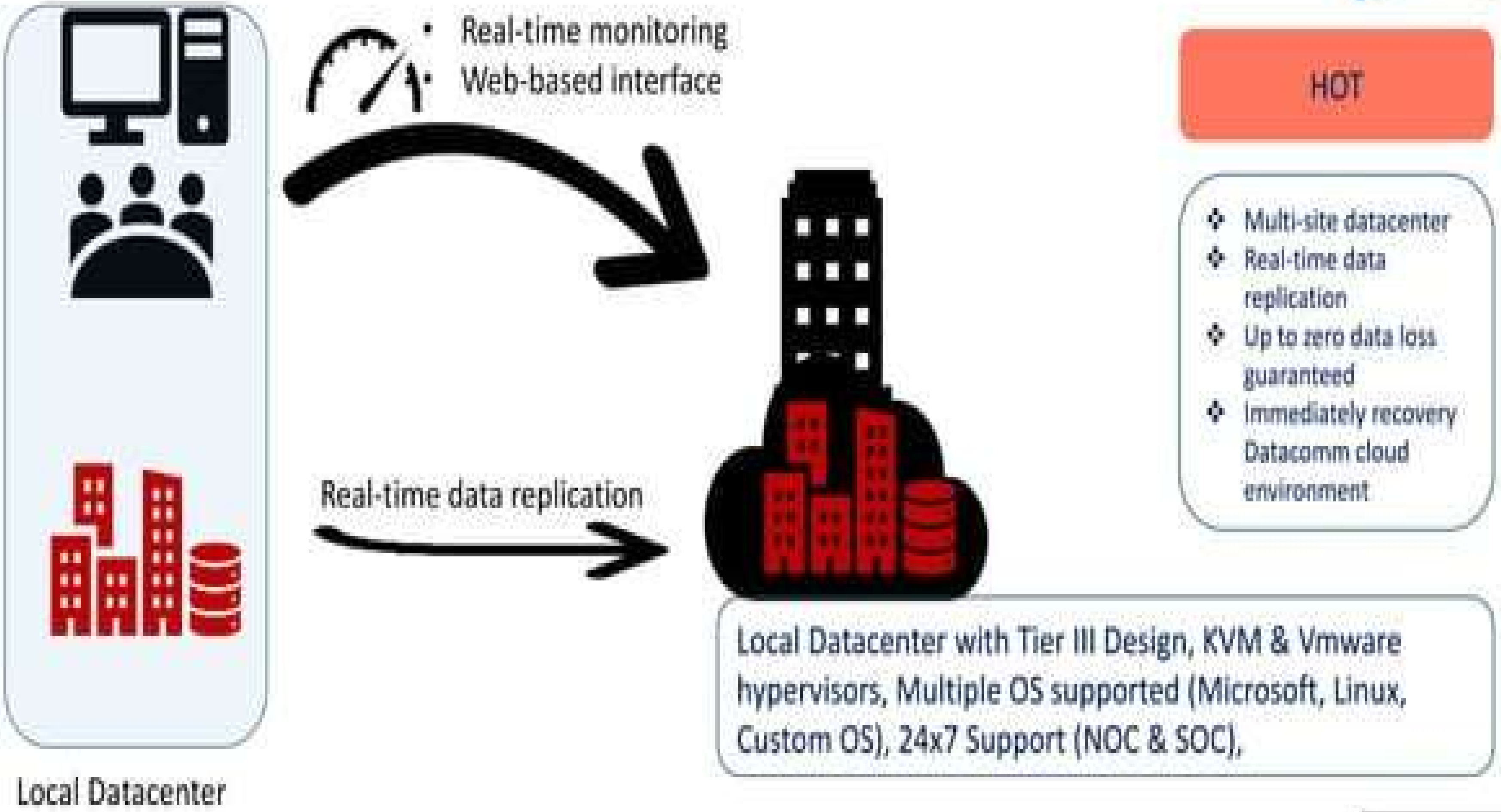
WARM

- ❖ Compute resource reservation (standby)
- ❖ Recovery from your own baseline OS template
- ❖ Quick recovery to Datacomm cloud environment

Local Datacenter with Tier III Design, KVM & Vmware hypervisors, Multiple OS supported (Microsoft, Linux, Custom OS), 24x7 Support (NOC & SOC),

Disaster Recovery On Cloud

Datacomm Cloud-based Disaster Recovery Solution



- Real-time monitoring
- Web-based interface

Real-time data replication

Local Datacenter

HOT

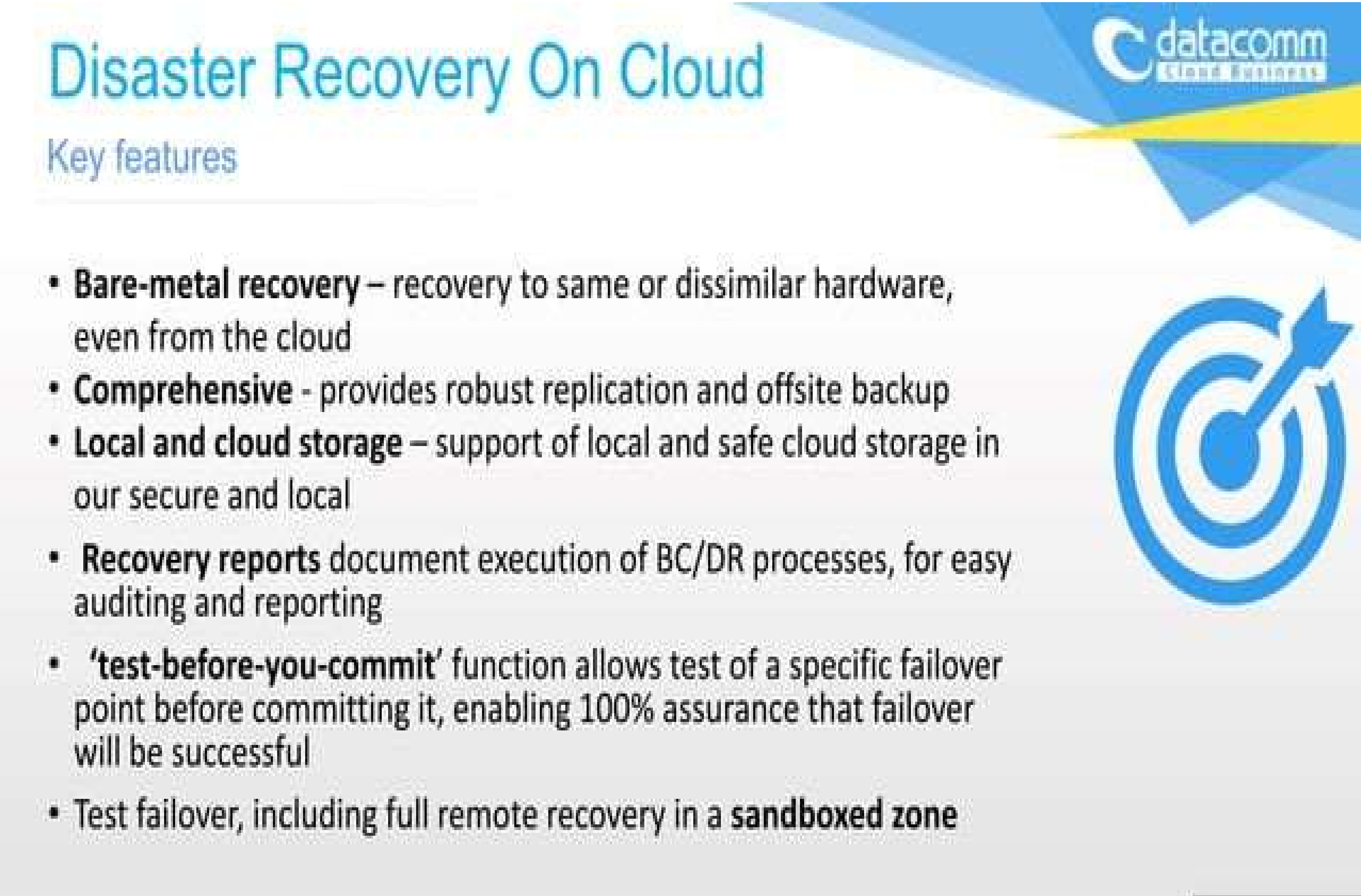
- Multi-site datacenter
- Real-time data replication
- Up to zero data loss guaranteed
- Immediately recovery Datacomm cloud environment

Local Datacenter with Tier III Design, KVM & Vmware hypervisors, Multiple OS supported (Microsoft, Linux, Custom OS), 24x7 Support (NOC & SOC),

Disaster Recovery On Cloud

Key Features

- **High availability** – guaranteed 99.9% SLA data backup availability
- **Physical and virtual systems** – protection of both physical and virtual systems in one service
- **Automatic and scheduled backup** through online control portal
- Up to **zero data loss** guaranteed
- **File and disk image-based** backup - backup of selected files or complete disk images
- **Define your own baseline** OS template for recovery



Disaster Recovery On Cloud

Key features

- **Bare-metal recovery** – recovery to same or dissimilar hardware, even from the cloud
- **Comprehensive** - provides robust replication and offsite backup
- **Local and cloud storage** – support of local and safe cloud storage in our secure and local
- **Recovery reports** document execution of BC/DR processes, for easy auditing and reporting
- **'test-before-you-commit'** function allows test of a specific failover point before committing it, enabling 100% assurance that failover will be successful
- Test failover, including full remote recovery in a **sandboxed zone**

Sandbox for DR Testing

- Non-disruptive DR testing
- Create a test and development environment
- During the test, replication and the production environment is still in process
- Can be done during working days
- No downtime on the production environment

Reporting

Report generated by
Zerto Virtual Replication

Recovery Report for Virtual Protection Group HyperV-CRMApp2

Report was generated at [illegible]

Recovery Operation Details

Initiated by	[illegible]
Recovery operation	Failover Test
Point in time	[illegible]
Recovery operation start time	[illegible]
Recovery operation end time	[illegible]
RTO	[illegible]
Recovery operation result	Passed by user
User notes	[illegible]

Virtual Protection Group Recovery Settings

Protected site	[illegible]
Recovery site	[illegible]
Default recovery host	[illegible]
Default recovery datastore	[illegible]
Default test recovery network	[illegible]
Default recovery folder	[illegible]

Recovery Report for Virtual Protection Group HyperV-CRMApp2

Virtual Machine Recovery Settings

Detailed Recovery Steps

Recovery Report for Virtual Protection Group HyperV-CRMApp2

Testing Regulations

- PCI
- ISO
- SOX
- HIPAA
- SEC

datacomm
Cloud Business

cloud.datacomm.co.id

cloud.datacomm.co.id/blog

facebook.com/Datacomm

linkedin.com/company/datacomm-cloud-business