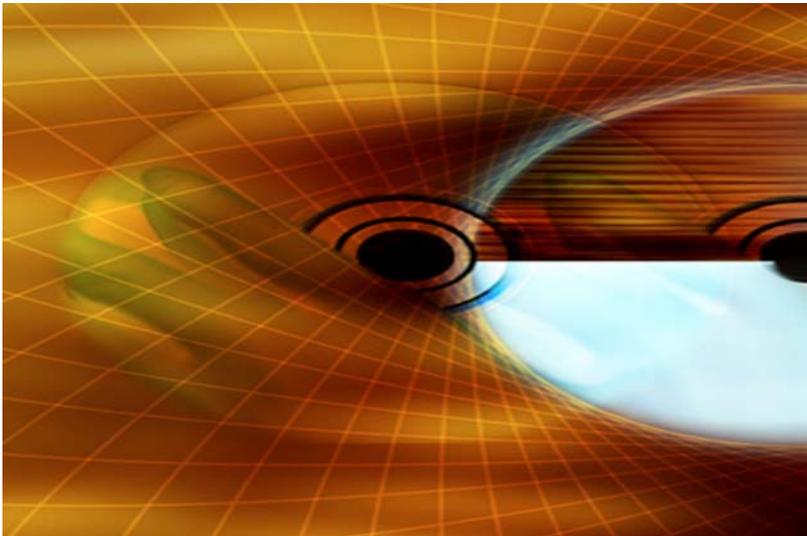


This is a Disaster Declaration
This is not a test!



Presented by:

Richard Dolewski
WTS, Inc.

If this FUJIFILM event were a 007 Movie



From Boulder (I mean Broomfield) with Love
On Fuji's Secret Service
The man with the Golden Tape
The LTO tape that Loved me
LTO5 is not Enough
License to Tape
Never say Downtime Again
Never say VTL Again
Live and Let Save
For Your Backups Only
i Fuji



Case Study - Disaster Declarations !!



2 Disasters to walk through real life events

Both companies are in the Manufacturing business with the corporate datacenter supporting several sales offices, distribution facilities and manufacturing plants scattered throughout the US

We will refer to these as the **Smith Corporation** and the **Zed Company**

We are all not Safe from
Weather Related Disasters !!!















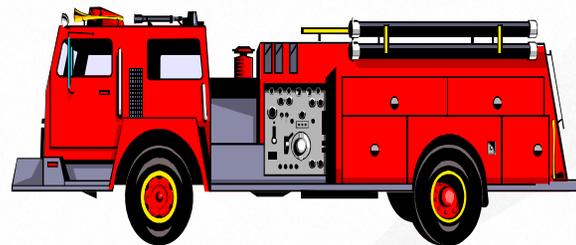


Definition of a Disaster



A sudden, Unplanned Event that causes great damage or loss to an organization

The time factor determines whether an interruption in service is an inconvenience or a disaster. The time factor varies from organization to organization



What is a Disaster ?



ANYTHING !!!!

That stops your business from functioning & that cannot be corrected within an acceptable amount of time....



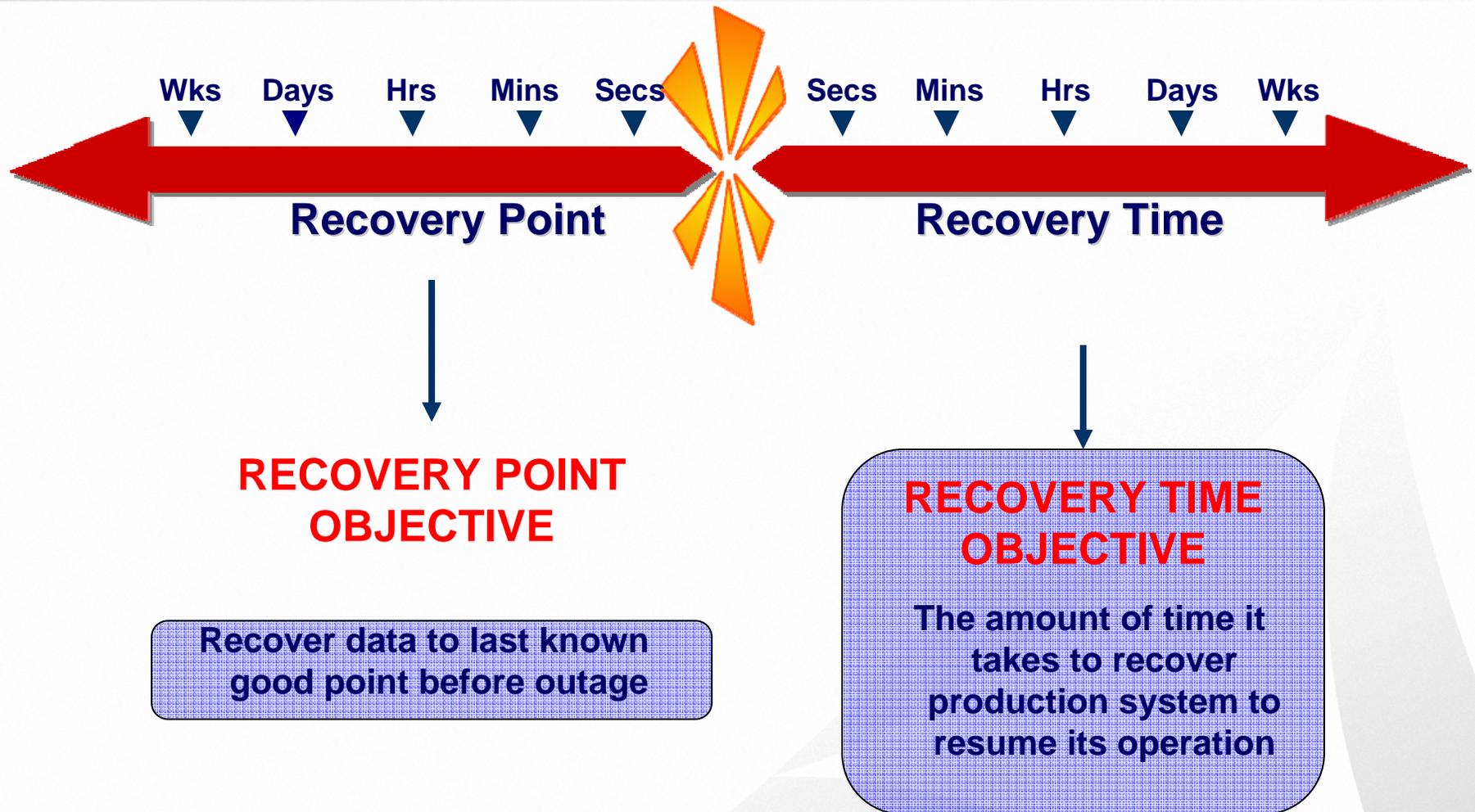
What constitutes a disaster in your organization ?

Disaster Recovery deliverables are based on:

RPO – Recovery Point Objectives

RTO - Recovery Time Objectives





Do you have a fully documented and tested DR Plan ?



**DR Plans
come in many
flavors**



No / Incomplete Disaster Recovery Plan



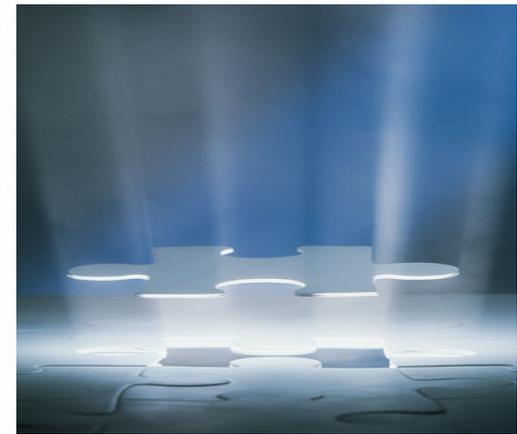
- ❑ **Guarantees:**
 - ❑ Confusion
 - ❑ Lack of direction
 - ❑ Conflict
 - ❑ Lost Customers
 - ❑ Lost Time



Cannot be approached casually

The Plan must be

- ✓ Well organized
- ✓ Action Oriented
- ✓ Comprehensive



Objective:

Total restoration of Services in a timely manner

The Products of a DR Plan



Who will execute recovery actions

What is needed to continue, resume, recover or restore business functions

When business functions and operations must resume

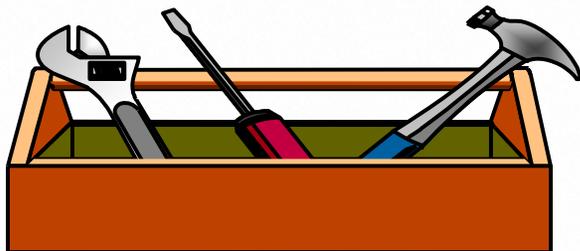
Where to go to resume corporate, business and operational functions

How detailed procedures for continuity, resumption, recovery or restoration

CLASSIC: WHO – WHAT – WHEN – WHERE - HOW

Common Issues

- ❑ Has your plan kept up to date with your IT integrations
- ❑ Expectations of Plan are un-realistic
- ❑ I no longer have the staff
- ❑ Implement DR into your Change Control Process



SIEBEL



ORACLE
ON DEMAND

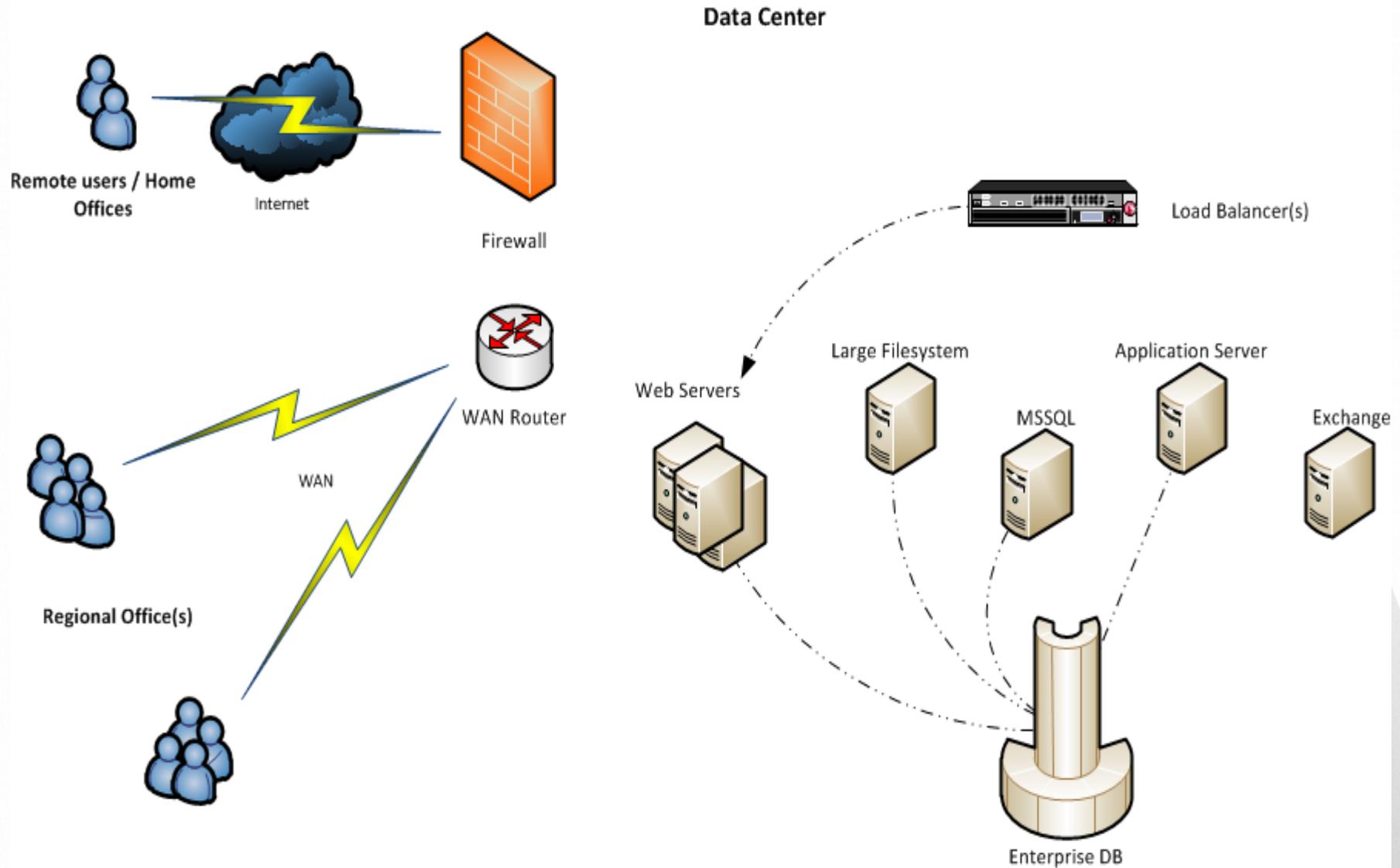


The Smith Corporation Profile



- ✓ Last DR test 1 year ago
- ✓ 100% successful - 14 hours
- ✓ Test annually with 4 IT Staff
- ✓ Trained in recovery of the system
 - ✓ Tapes sent offsite daily
 - ✓ RTO & RPO - 24 hours

The Smith Corporation Profile



Smith Corp - Disaster



- Water Damage under computer room floor...on the 32nd Floor
- Severe power failure – Wednesday night 7 pm
- Site expected to be down well past the weekend.
- **Disaster Declared ! 11pm**

4 Hours



Smith Corp - Disaster



- Person declaring disaster “ **Not authorized** “ and unfamiliar with password activation procedures.
- Hot-site begins preparation of hotsite, but requests authorized individual to call within the next hour

4 hours



Smith Corp - Startup Issues



- Hot-Site equipment is available 4 hours after call
- Smith Corp still trying to locate authorized staff.
(Alternates not available or no longer employed)
- Disaster Declaration fee of \$ 7500.00. What's this ?

8 hours



Smith Corp - Startup Issues



- Staff unable to recall tapes en-route to hot-site.
- Offsite Storage Vendor will not accept phone request.

“ You must signon to Web site to recall tape media “

Smith Corp - Startup Issues



- Utilize Hot-Site infrastructure - Recall tapes
- iSeries - Full 21 save available & Wednesday night backup which was successful
- Intel – Last full and incremental backups successful
- Tapes are requested for Emergency Service Delivery
- All required tape media arrives - 90 Minutes

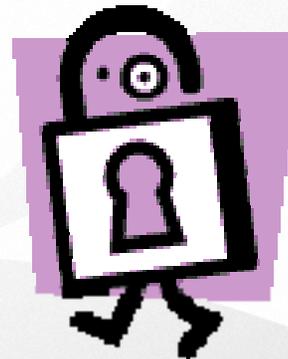
9.5 hours



Smith Corp - Startup Issues

- Intel backup procedure includes:
 - System state
 - All filesystem volumes
 - All databases

Issue - Tapes arrive in locked box

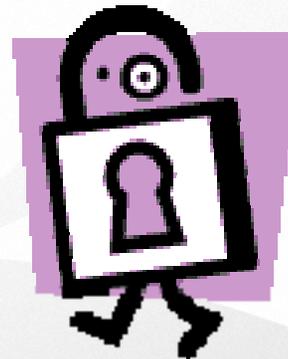


Smith Corp - Startup Issues



- iSeries Daily backup procedure includes:
 - SAVSECDTA
 - SAVCFG
 - SAVLIB * ALLUSR (save while active)
 - SAVDLO
 - SAV

Issue - Tapes arrive in locked box



Smith Corp - Startup Issues



➤ Who has the Key ???



- Decision is made! Don't wait just break the locks!
- 30 minutes is lost before decision is made.



10 hours



Smith Corp - Startup Issues

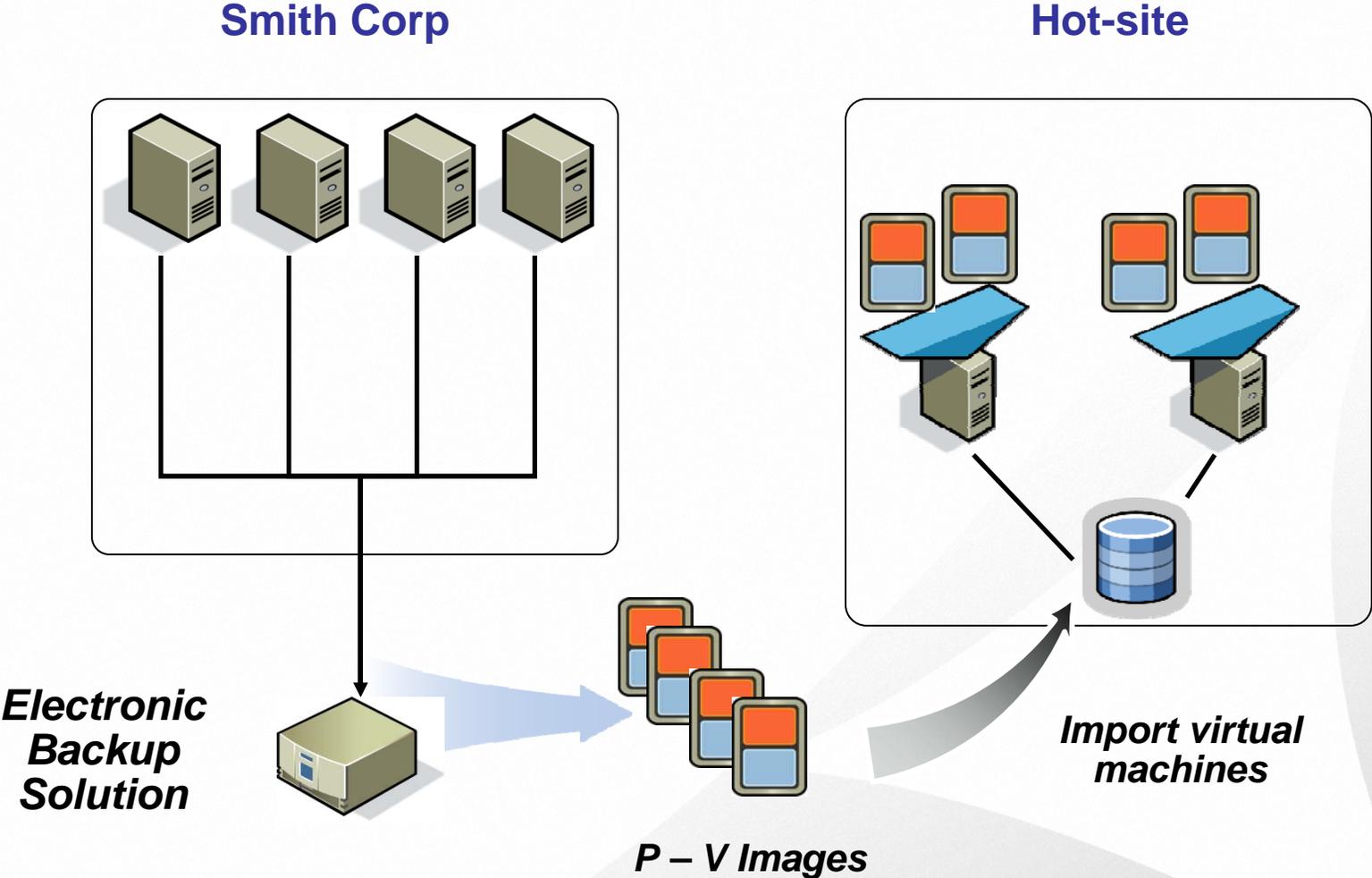


- ❑ Issue - SAVSYS on 3590 format
- ❑ LIC and Operating system cannot be restored from 3590 format tape.
- ❑ Daily procedures saved on brand new LTO4
- ❑ Hot-Site staff switch tape drives to accommodate daily save restore on older tape technology

12 hours



Physical Servers to a Virtual Solution



- Electronic Backup Solution (VTL) physically removed from data center and transported to hot-site



Smith Corp - Off to the races



- Procedure execution for iSeries *ALLUSR recovery starts
- Procedure execution for Wintel Data Layer recovery starts
- Notice goes out to the business of an estimated restoration completion of **14 hours** from NOW !

16 hours



Smith Corp - Update



- Tape restore halted due to a message
- Step omitted *HOLD QSYSOPR message queue
Approximately 45 minutes lost
- Called all 3rd party vendors for keys.
- New notice is sent to Business for restoration completion
14 hours from NOW !

17 hours



Smith Corp - System ready



- System is restored in 8 hours. Available Early !!
- Systems are checked. All files are restored.
- **Non critical data omitted**
- All 3rd party keys applied except for one as procedure is missing and waiting for vendor call back.
- Testers have given the green light.
- We are back in business

25 hours



Report Card - Smith Corp



- ✓ Need to keep Authorized staff for Declaration up to date
- ✓ Know your Offsite Vendor limits
- ✓ Locked Offsite Storage Boxes
- ✓ Keep Hot-site in the know of hardware changes
- ✓ Utilize one tape format for backups (Enterprise)
- ✓ Electronic Backup Solution (VTL Onsite – Major Gap)

Report Card - Smith Corp



- ✓ Save virtual machines images to Tape & store offsite
- ✓ Missed Step - Human error
- ✓ The entire staff was very well trained
- ✓ 2 Staffers were on holidays - the other 2 came through
- ✓ Third party procedures included key retrieval & activation

The Zed Company Profile



- ✓ Last DR test 8 months ago.
- ✓ 100% successful - 17 hours
- ✓ A special save to facilitate DR test.
- ✓ Have never tested a mid week recovery.
- ✓ Recently switched to a new software backup solution
- ✓ No Generator (Not in Budget)

Murphy's Law



A typical summer day....85 degrees Blue Skies.
Weekend forecast of Sun, Sun & more Sun.



The best laid out plans were now ready.

Only Questions Remains....

How quick can I leave the office Friday ?



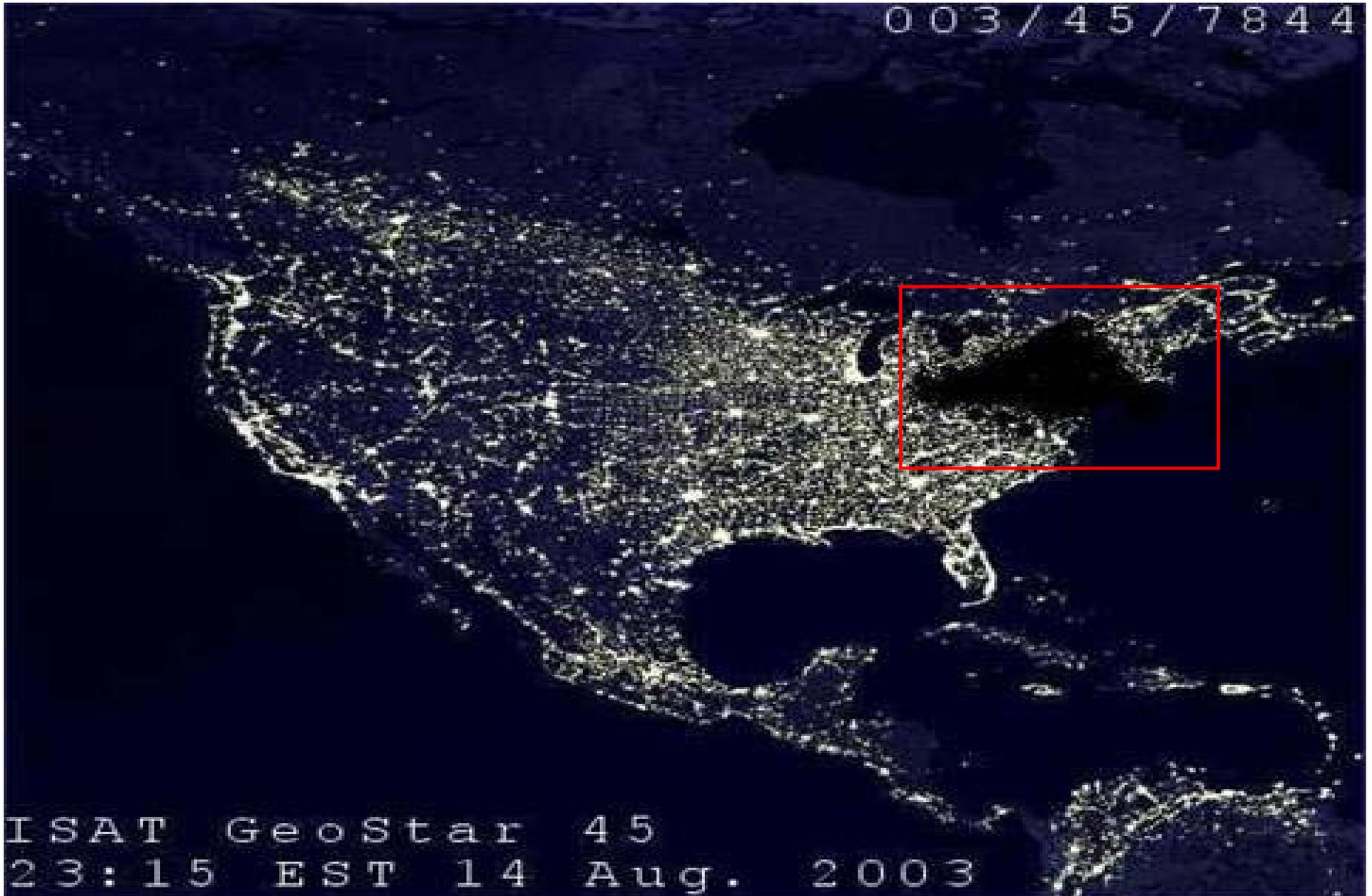
Then the cell phone Rings !.....It's the Data Center.



Do you answer the phone ?



This is a Disaster !!



ISAT GeoStar 45
23:15 EST 14 Aug. 2003

The Zed Company Profile



- ✓ Primary Technical Owner of DR conducted last 2 DR tests in Phoenix.
- ✓ Alternate person ran operations back at the office.
 - ✓ Tapes sent offsite daily
 - ✓ RTO 48 hours
 - ✓ RPO 24 hours

Zed Company - Startup Issues



- Called in to Declare disaster but fails to show up !
- Waiting on staff to arrive – Unable to locate client - Voice mail. (Dead cell Phone)

5 hours



- Client returns call 2 hours later !
Power is slowly coming on in parts of the city
He has heard his will come shortly.

7 hours



Zed Company - Startup Issues



- Hot-site suggests tapes get shipped to start recovery just in case. Client agrees.
- Client does not know which tapes he needs.
- All backup software recovery reports are **kept** on the system.
- Suggest sending last full & all of this weeks dailies. Hot-site staff try to recover.

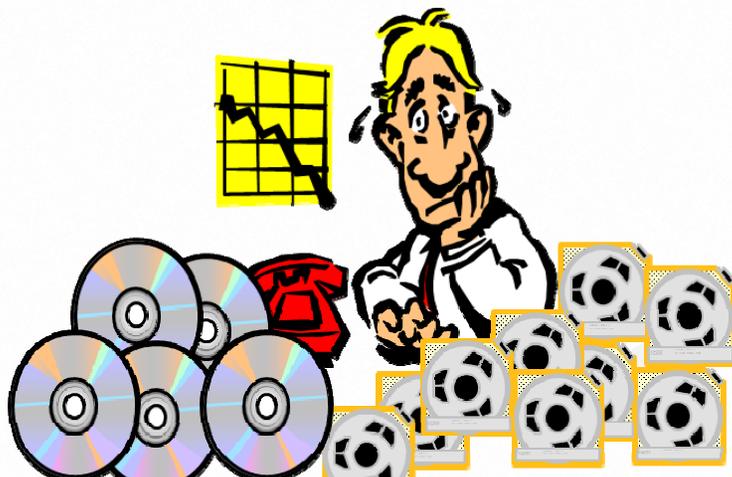
9 hours



Zed Company - Startup Issues



- Tape media arrives
 - A box of 14 - LTO tapes in NO particular order.
- No media report arrived with tapes
- Which one contains the catalog ?
- Staff loads all tapes into library and inventories using backup software
- DR Plan missing at hot site- Alternate person goes back to site to obtain the plan



10.5 hours



Zed Company - Startup Issues



- Signed into Offsite Tape Vendor web site to determine what backup sets arrived at hot site
- Found tape catalog as labeled in offsite tape vendor inventory
- Unable to restore tape catalog – “invalid catalog error”
- Manually cataloged each tape - 6.5 hours wasted!

17 hours



Zed Company - Startup Issues



- Management are very uptight...Name calling
- Every action/ or decision is now being questioned.
- Pressure is probably at a peak as Plant locations are asking when ???

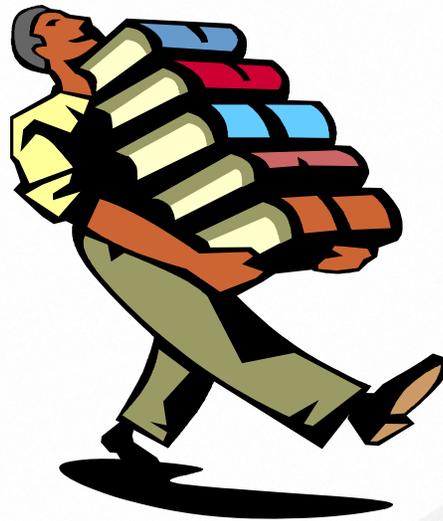


Zed Company - Startup Issues



- Primary Technical Staff person now en-route to hot-site to assist.

DR Procedures arrive with Primary person



21 hours



Zed Company - Startup Issues



- The correct backup sets requested from offsite vendor
- Tapes were cataloged, fortunately the data was found
- Start recovery of rest of the system

29 hours



Zed Company - Startup Issues



- **Senior** management (not IT) summons lead Technical person back as power is now coming on across the street. Power is Expected anytime now.
- Declaration is **HALTED** & tapes are requested back. Against recommendations !

31 hours



Zed Company - Back on Again



- Client calls back 4 hours later. Requesting the restore to continue. Power still an issue.
- Hot-Site informs client the system has been scratched and they must start all over again.
- Client will bring tapes to begin reload.

34 hours



Zed Company - Back on Again



- No staff are available. Exhausted at this point.



36 hours



Zed Company - Back on Again



- Business wants a guarantee the system will be up in 8 hours. Business orders severely affected.
- **Issues** - Client didn't maintain their backup environment
First test since new backup software installed



Zed Company - Back on Again



- Restore starts immediately. This time with tapes already cataloged and DR documentation in hand
- System is restored in 17 hours
- Startup procedures incomplete, but manage to get ERP services up.

53 hours



Report Card - Zed Company



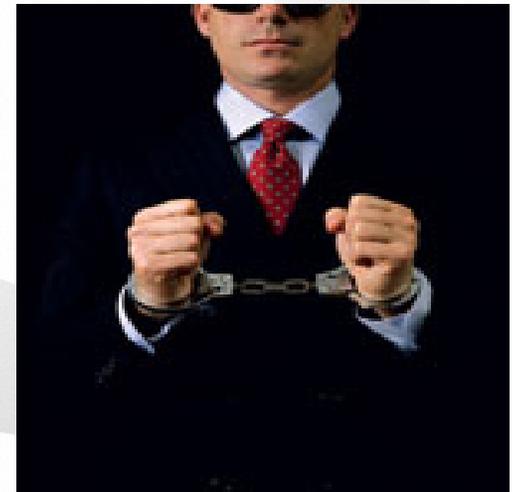
- Client Declares and Stops communicating with team
- Indecisive
- Backup policies not documented. A mystery to all.
- New Backup Software recovery never tested
- Backup Software reporting not sent offsite
- Tapes shipped. Documentation incomplete



Report Card - Zed Company



- Wrong person sent to recover system
- DR Plan unavailable
- Senior Management Pressure
- Staff in a state of flux - Coming & going
- Halted Recovery
- Restart all over again.
- Lack of staff delegation & training
- No Generator (Now in Budget)



The ZED Company

Does Your Business Have a Say!!

Do the bean counters know
what IT can deliver ?



Consider the Business impact of Down time !



Report Card - Zed Company



- Management Shocked that the IT folks lost all orders
- **24 Hour RPO** - Who agreed to this ?
- System was not available for 2 days
- **48 Hour RTO** - Who agreed to this ?

Questions for Company Management



Include: Manufacturing, Finance, Purchasing, Sales, Warehousing etc.

- ✓ Ask them about their Business.
- ✓ What Services do you provide them!!
- ✓ Is IT aligned with the business ?

Email has become Mission Critical !

- Email represents the way you communicate with customers, partners, and employees.
- In a disaster situation, this may be a key component of your communications strategy.
- Is Email listed as a critical application for your organization and included in your disaster recovery plan?



Testing Summary



Recovering from a Disaster is overwhelming
This can lead to frustration & loss of motivation

Frequent Testing results in:

- ✓ People that are comfortable in familiar situations
- ✓ Visually see the recovery goal & efforts
- ✓ Confidence already in place
- ✓ Will staff be available when you need them most ?
- ✓ Audit your backup policies....NOW !!!!



Your Company Data is safe with me

It's eleven o'clock

Do you know where your data is ?

Ingredients:

One Average, everyday filing cabinet

All your important business documents

One Average business fire

Directions:

Place LTO media in onsite filing cabinet.

Bake in fire at approximately 800°F for 20min.

Let cool.

Open filing cabinet.

Recipe for Disaster

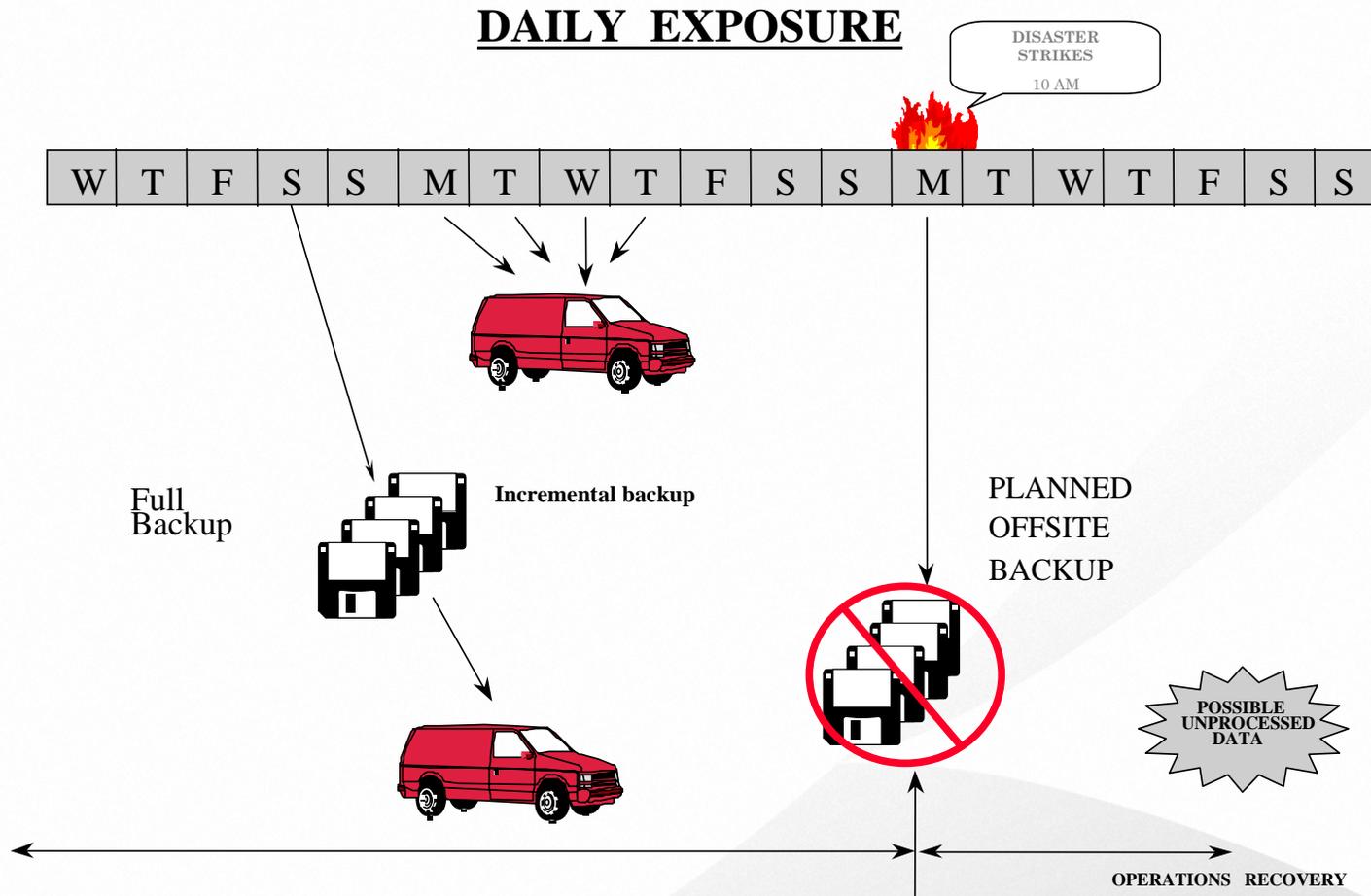


BAM !!!

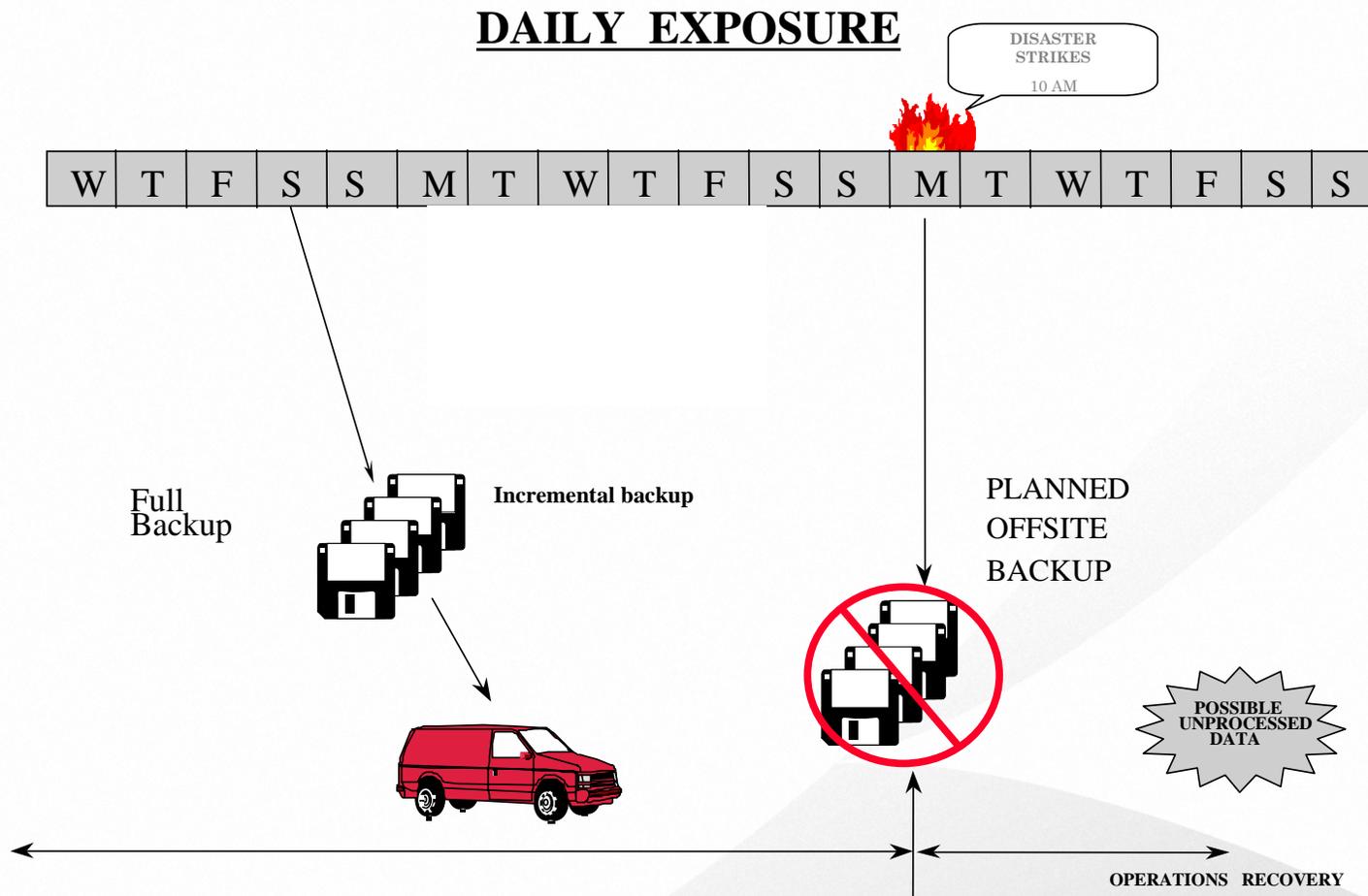
Keep Backup Media on site and
your business is toast !



Offsite Strategy



Offsite Strategy





Tape Storage – Current and Archived



No one wants to be in a position of explaining why your organization lost their data



Understand and are Ready

Understand and are not Ready

Understand but don't want DRP

Don't Understand. Why Bother !



IT Preparedness

Understand and are Ready

–Top Gun

Understand and are not Ready

–Sleepless in Seattle

Understand but don't want DRP
or a Security Plan

–Dumb and Dumber

Don't Understand. Why Bother !

–Clueless or Armageddon



Richard Dolewski
WTS, Inc.
rdolewski@wts.com

www.wts.com



The **e** nd, Thank You!