



Reducing the Cost of Windows Downtime with Winternals Recovery Manager™

A Business Case Analysis for a 1,000 Node Network:

- Winternals Recovery Manager is projected to save an organization with a 1,000 node network at least \$30,327 per year, after factoring the cost to purchase, maintain, and administer the software.
- This investment in Recovery Manager is conservatively estimated to pay for itself within 6.6 months, for a return on investment (ROI) of 39%.

Recovery Manager extends traditional techniques of restoring failed systems from backup images. Recovery Manager should be the first choice to recover failed Windows operating systems, recoverable hardware errors, and user errors that result in damaged and unbootable systems because it:

- Allows much faster repairs for greater IT staff productivity
- Reduces downtime and minimizes end-user disruption
- Can eliminate virtually all data loss, thereby increasing user productivity
- Forgoes the need for end users to re-create system settings after recovery
- Facilitates root-cause analysis to prevent problems from repeating

Projected Use of Recovery Manager:

- The organization has 1,000 Windows computers consisting of approximately 100 Servers plus 900 Workstations. Within the next year, the organization's 100 Servers are projected to fail at least 6 times and its 900 Workstations are projected to fail at least 54 times.
- Restoring these systems with conventional reimaging, reinstallation, and backup recovery techniques is projected cost at least \$107,439 in IT staff time and lost user productivity during the next 12 months.
- Using Recovery Manager as the primary recovery option is projected to reduce the cost of IT staff time and lost end-user productivity by at least \$66,949 during the next 12 months.

How Cost Savings Are Calculated:

1. Organizational Data:

- Fully-burdened IT staff cost is assumed to be at least \$37.50 per hour.
- Fully-burdened end-user cost is assumed to be at least \$48.00 per hour.

2. Hardware Data:

- The organization's Servers are typically used for email communication, business process automation, file access, e-commerce, and other critical applications. Each Server is assumed to have not less than 50 dependent users. On average each user's productivity depends at least 55% on having Server hardware available, and on average at least 30% of each user's time is used to create data that resides on Server hardware. Each Server is assumed to operate at least 9 hours per day, 280 days per year.
- The organization maintains current Server system images through use of imaging software, and Server data is backed up once per 1.0 workdays using conventional backup practices.
- Each of the organization's Workstations is operated by 1 user during a typical workday and is used for at least 8 hours per day, 240 days per year. On average each user's productivity depends at least 75% on having this Workstation hardware available, and on average at least 50% of each user's time is used to create data that resides on Workstation hardware.
- The organization maintains current Workstation system images through use of imaging software, and Workstation user data is backed up once per 1.0 workdays using conventional backup practices.

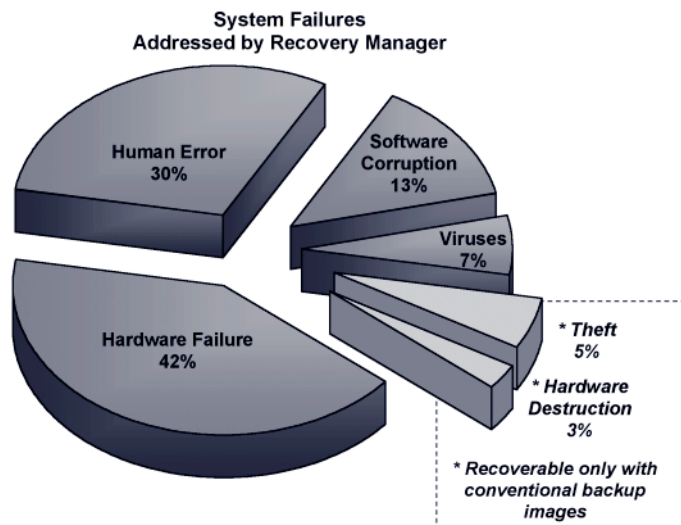
3. Failure Projections:

It is projected that the organization will have at least 6 Server failures and 54 Workstation failures during the next 12 months:

A study published by Pepperdine University¹ finds that at least 6% of PCs experience failures leading to data loss each year. Recovery Manager addresses these common causes of system failure faster and more economically than is possible with conventional recovery techniques:

- **Hardware Failures** caused by faulty drivers, device conflicts, and disk errors that render a system unbootable or unstable
- **Human Error** including faulty software installation and updates; forgotten and locked-out passwords; and other operator actions
- **Software Corruption** resulting in an unstable or unbootable system
- **Viruses** and other malicious code affecting critical system files

Hardware issues, human error, software corruption, and malicious code account for 92% of failures leading to data loss, and it is estimated that 76% of these incidents can be more efficiently recovered by Recovery Manager compared to conventional recovery from backup. It is assumed that the 8% of data loss caused by hardware theft and destruction can be recovered only from backup images.





From This Data It Is Calculated That:

- Recovery Manager will restore at least 4 of the 6 predicted Server failures faster than conventional techniques — with zero data loss.
- Recovery Manager will restore at least 38 of the 54 predicted Workstations failures faster than conventional techniques — with zero data loss.

4. Recovery Cost Projections:

Each time that the organization restores a failed Server using traditional reimaging or reinstallation and recovery from backup, it costs at least \$12,101 in IT staff time and lost end-user productivity:

- On average at least 6 hours of IT staff time² are required to perform initial troubleshooting, obtain valid system images, restore the system to a known state, install and update any non-imaged settings and applications, and restore user data from backup: 6 hours x \$37.50 per hour = \$225.00 in IT staff costs.
- End-user downtime during the above process averages 6.5 hours: 6.5 hours x 50 affected users x 55% dependency x \$48.00 per hour = \$8,580.00 in end-user downtime costs.
- User data is backed up once per 1.0 workdays with each Server operating at least 9 hours per day, so each failure results in an average of 4.5 hours of data loss: 4.5 hours x 50 affected users x 30% data dependency x \$48.00 per hour = \$3,240.00 in lost user data.

Each time that the organization restores a failed Server using Recovery Manager, it costs only \$1,395.00 in IT staff time and lost user productivity:

- IT Staff time required to perform troubleshooting and repair using Recovery Manager varies from a few minutes to approximately 1/2 hour; projected average repair time is 0.5 hours: 0.5 hours x \$37.50 per hour = \$18.75 in IT staff costs.
- Average end-user downtime is conservatively projected to be 1.0 hours: 1.0 hours x 50 affected users x 55% dependency x \$48.00 per hour = \$1,320.00 in end-user downtime costs.
- End-user data loss is avoided in all cases where use of Recovery Manager is a successful alternative to traditional solutions of reimaging and restoring from backup.



WINTERNALS BUSINESS CASE ANALYSIS

Each time that the organization restores a failed Workstation using traditional reimaging or reinstallation and recovery from backup, it costs at least \$627.00 in IT staff time and lost user productivity:

- Not less than 6 hours of IT staff time are required to perform initial troubleshooting, obtain valid system images, restore the system to a known state, install and update any non-imaged settings and applications, and restore user data from backup: 6 hours x \$37.50 per hour = \$225.00 in IT staff costs
- End-user downtime during the above process averages 6.5 hours: 6.5 hours x 1 affected user x 75% dependency x \$48.00 per hour = \$234.00 in end-user downtime costs
- Cost for each end-user to restore Workstation configuration settings including program preferences, shortcuts, links, etc.: 1.5 hours x 1 affected user x \$48.00 per hour = \$72.00 in end-user productivity costs
- User data is backed up once per 1.0 workdays with each Workstation operating at least 8 hours per day, so each failure results in an average of 4 hours of data loss: 4.0 hours x 1 affected user x 50% data dependency x \$48.00 per hour = \$96.00 in lost user data

Each time that the organization restores a failed Workstation using Recovery Manager, it costs only \$54.75 in IT staff time and lost user productivity:

- IT Staff time required to perform troubleshooting and repair using Recovery Manager varies from a few minutes to approximately 1/2 hour; projected average repair time is 0.5 hours: 0.5 hours x \$37.50 per hour = \$18.75 in IT staff costs
- Average end-user downtime is conservatively projected to be 1.0 hours: 1.0 hours x 1 affected user x 75% dependency x \$48.00 per hour = \$36.00 in end-user downtime costs
- End-user data loss is avoided in all cases where use of Recovery Manager is a successful alternative to traditional solutions of reimaging and restoring from backup
- Lost user settings are avoided in all cases where use of Recovery Manager is a successful alternative to traditional solutions of reimaging and restoring from backup.



5. Conclusions:

The organization's projected total annual cost for system recovery if only traditional reimaging and restoring from backup are used: $(6 \text{ Server failures} \times \$12,101 \text{ per failure}) + (54 \text{ Workstation failures} \times \$627 \text{ per failure}) = \$107,439$

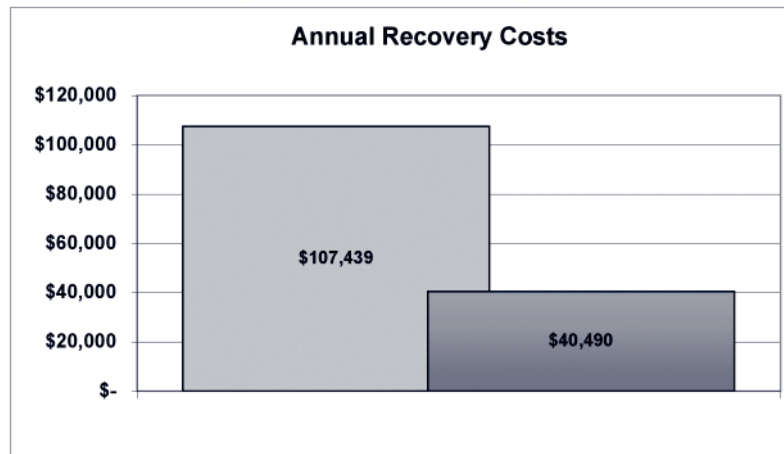
Less the annual cost for system recovery using Recovery Manager whenever possible, and traditional reimaging and restoring from backup otherwise: $(4 \text{ Server failures repairable with Recovery Manager} \times \$1,395 \text{ per failure}) + (38 \text{ Workstation failures repairable with Recovery Manager} \times \$55 \text{ per failure}) + (2 \text{ Server failures repairable by traditional means} \times \$12,101 \text{ per failure}) + (16 \text{ Workstation failures repairable by traditional means} \times \$627 \text{ per failure}) = (\$40,490)$

Less the annual cost of Recovery Manager licensing and maintenance for 100 Servers, 900 Workstations, and 10 concurrent help desk operators amortized over 3 years: $(\$18,311)$

Less annual administrative costs for deployment of Recovery Manager (equals 100% of product acquisition costs³): $(\$18,311)$

Total first-year savings: \$30,327

Return on Investment (ROI): 39%



Total first-year savings of \$30,327 includes the cost to purchase, maintain, and use Recovery Manager.

¹“The Cost of Lost Data” (David M. Smith, Ph.D., Pepperdine Univ., September, 1999)

² Ibid.

³ D. Cappuccio, W. Kirwin, L. Pawlick, S. Namasivayam, “Total Cost of Ownership: Reducing PC/LAN Costs in the Enterprise” (Gartner Group)