ResiliEnt Business Solutions

Managed IT Infrastructure (MITI):

A Solution for Improving
IT Services & Infrastructure
While Containing or Reducing Costs

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Introduction

In today's complex business environment, Information Technology (IT) has become a critical factor in the execution of a company's business plan.   To be successful organizations must manage an increasingly complex infrastructure of workstations, servers and applications. As reliance on these technologies increases so does the risk associated with the nonperformance of these assets. Companies are in a continuous struggle to maintain the required level of technical expertise and the required level of investment to manage a robust computing infrastructure that does not impede an organization's productivity, efficiency and growth.

The concept of managed IT infrastructure is designed to dramatically change the way small to mid-sized companies handle their information technology needs while containing or even reducing the overall cost. Further, by removing the pains and distractions often associated with IT infrastructure management, organizations that adopt a managed IT infrastructure (MITI) program are able to focus their energy and resources on what is really important – the company's core competency or mission.

Consider the following case study:

A specialized wood products manufacturing company began experiencing increasing problems from its IT infrastructure. The company struggled with the management of its network, workstations, servers and software across multiple physical locations.   As the company grew and expanded, its computing infrastructure became increasingly important to the organization's ability to conduct its business. As might be expected, the issues associated with the company's IT infrastructure became ever more apparent.

Investment in the computing infrastructure was at a virtual standstill. PC's and laptops were underpowered and unable to serve the needs of their users. Software licensing was in disarray. The key servers were being backed up to tape each night but the data on the tape was never verified, nor was the ability to recover a server from the tape ever tested. Essentially there was no reliable file or server disaster recovery process in place.   Network security was haphazard and the network was vulnerable from attack.

As the business grew, the limited IT staff began to take on a critical role in serving day-to-day operations of the business.   Critical to the point where a sick day, vacation time, or departure of a single resource could jeopardize the business. What if an employee attempted to exploit that situation to his or her own benefit?   Well, it happened.

The continuing success of the business was exposed to risk from at least the following IT events:

- Server crashes and hardware failures
- Inability to recover from fire or other extraordinary event
- Network vulnerability to hacker attacks

- Impaired productivity of business users

Do elements of this story feel hauntingly familiar? Does the entire case study scenario describe the state of your organization?   If so, you are not alone.

Many companies, regardless of size, are faced with at least some of the IT infrastructure problems revealed in the case study above, but small to medium sized organizations are especially affected because they do not have the resources and/or expertise to adequately combat the challenges in managing their IT infrastructure. Companies need to take proactive steps to more effectively manage their IT Infrastructure.   This must happen because information technology is the life-blood of the fast-paced and ever-changing marketplace that companies compete in. If a company's IT organization - or for small companies, IT person - is struggling, the entire company is bound by that struggle.

While the many issues that a MITI program are engineered to overcome affect organizations of every size, large companies have the appropriate economies of scale and financial resources to combat these challenges. One of the greatest advantages of a MITI program to the small to mid-sized business is the ability to improve service levels and reduce risk at a cost that is predictable and often *WITHIN* or even below an organization's current expenditure level.

The best MITI program is one that delivers a comprehensive solution that addresses all information technology needs from the physical network including wired & wireless communications, routers and servers, to desktops, laptops and mobile devices, to disaster recovery, security and Help Desk services.   When exploring MITI options, be sure to avoid limited, pointed or specific programs.   The most robust MITI approach will take full responsibility for managing an organization's IT infrastructure.   Such solutions will reduce, even eliminate, the risk of IT infrastructure failures to the company and allow the organization to pursue its strategic mission without worry.

To understand the benefits of a MITI program, let's look at some of the common problems, challenges and issues that such solutions are designed to defeat:

- The hardware that makes up an organization's computing infrastructure becomes outdated very quickly and many companies do little to keep pace with the change. This creates havoc in servicing users and maintaining hardware and software standards. Further, outdated equipment becomes expensive to maintain and has a higher rate of failure which puts business at risk.
- Many small to medium companies (and even large ones!) are lacking a comprehensive disaster recovery procedure. Many companies think they have a DR scheme in place but do not. Backups should be periodically verified and a complete server restore should also be periodically tested.
- To be sure, software licensing is difficult to manage and smaller organizations can easily find themselves in an unmanageable situation where multiple versions of the same software are installed and have proliferated throughout the organization. Employees

often install unlicensed software which exposes the company to the risk of a software audit.

- Service levels are often compromised by spikes in demand and the unavailability of IT staff.
- It is quite common, particularly for small companies (but even large ones can suffer from this) to find that one or two employees hold the "keys to the Kingdom". This exposes the organization to the risk that these employees, when presented with motive and the opportunity, have the potential to do harm to the organization.
- The smaller the organization, the more difficult it is to increase or decrease IT staff to meet changing demands of the business. The consequence of not adding staff is that infrastructure projects that need to get done don't get done, and the consequence of not reducing staff is that savings which could be realized are not.
- Hiring and maintaining qualified and experienced IT infrastructure staff is very expensive, even more so when considered inclusive of the costs beyond the salary: benefits, sick days and holidays, recruiting and training fees, etc.
- Organizations often find it difficult to hire, retain and train the infrastructure skill required to deal with today's complex networking, security, server administration and user help desk issues. The end-result is that instead of having access to highly trained specialists for each area of specialization, organizations are forced to live with infrastructure generalists.

To our clients, a MITI offering delivers a comprehensive and affordable solution to address the aforementioned issues and more! To ResiliEnt Business Solutions, a MITI offering allows us to now assist our clients with the *Technology* aspect of IT as well as the *Information* aspect of IT – ResiliEnt's traditional business line.

For clarity, all facets of IT that fall under the domain of systems development - such as report writing, data conversions, ERP implementations, data warehousing and application integration are categorized under the *Information* aspect of IT. All facets of IT that fall under the domain of computing infrastructure – like server implementations, user help desk, networking, security, email, etc., are categorized under the *Technology* aspect of IT. The remainder of this paper will cover only the technology aspect of IT and what features and services organizations should look for when evaluating managed IT infrastructure programs.

Benefits of a Managed IT Infrastructure

A prescribed MITI solution should begin with an initial thorough Technology Assessment which reviews a client's computing infrastructure and makes recommendations on areas of improvement. All hardware and software and software licensing should be reviewed along with disaster recovery procedures, email capabilities, security measures, network performance and more.

Organizations can expect to realize at least the following benefits from a MITI program:

- ✓ Complete standardization and modernization of the computing environment.
- ✓ Implementation of a fixed seat cost per month, which is easily scaled up or down, for computing infrastructure. Calculated and consistent costs allow management to project a budgeted cost for IT.
- ✓ Maintenance of a standardized software footprint across all workstations and laptops
- ✓ Significantly reduced downtime resulting from new hardware/software upgrades and comprehensive computing infrastructure support through (a) *immediate* Help Desk response and (b) onsite technical support with a contracted service level during the regular business day.
- ✓ Unlimited Help Desk support for all users.
- ✓ Significantly reduced vulnerability to security breaches and virus threats.
- ✓ Significantly reduced incident rate of network and/or desktop downtime, improved customer service and satisfaction rates, improved efficiency of the network and increased employee productivity.
- ✓ Automated *tapeless* server backup and monitoring service with a Web-based recovery facility to completely eliminate the need for tape handling. Tapeless backup and recovery ensures the integrity of server backups and delivers a proven server disaster recovery plan for an entire server or the recovery of individual files.
- ✓ Improved employee morale from the implementation of up-to-date equipment and an experienced Help Desk which is there to serve at the staff's beckon call.
- ✓ Elimination or reduction of full-time personnel costs associated with an organization's IT infrastructure management, which in turn eliminates disruption due to vacation, sick and holiday time as well as relieving the dependency of an organization on a single person or persons.
- ✓ Elimination or reduction of the training budget, recruiting fees, annual raises, performance reviews and associated HR functions for a person or persons to maintain the computing infrastructure.

The benefits list of the MITI program is impressive and proven, but there is more because adoption of MITI also provides a business with:

- ✓ Comprehensive Service Package – A full service package that includes a Network Operations Center (NOC), Help Desk Support, Desk-Side Support, Proactive On-Site

Maintenance and Network Support service which covers your entire technology environment.

✓ Standardized Computing Environment – A standardized computing environment, a feat typically unheard of in most organizations, using products by industry leaders such as HP, Microsoft, and Cisco Systems that allows for cost effective technology expansion.

✓ Continuous Improvement Plan – Every three years the state of IT infrastructure is reassessed and change recommendations are produced. This process ensures that an organization's computing infrastructure never falls behind the curve again.

✓ Single Point of Contact – A single point of contact yet eliminates the risk of a single person to rely on.

✓ Guaranteed Service Levels – Without the implementation of a MITI program, the time frame in which IT responds to a user request can usually not be determined; if key IT resources are sick, on vacation or even leave the company, support may be deferred or may not happen at all. With MITI programs, users are provided immediate service via the Help Desk facility and are guaranteed to be provided onsite support within 4 hours for critical problems.

Details to Look for in a Managed IT Infrastructure Program

The best MITI program will consist of a comprehensive seven-point support plan:

1. Network Support & Network Operations Center
2. Software License Management
3. End-User Support
4. Hardware Maintenance and Warranty
5. Special Client Requested Technical Support
6. Server Backup, Monitoring and Recovery Services
7. Continuous Improvement Plan

Network Support & Network Operations Center

Network Support
a) The physical environment of the servers as well as the overall health of each server should be proactively and continuously monitored.
b) Server logs, virus logs, security settings, and disk utilization should be proactively and continuously monitored.\
c) Upgrades, patches and service packs for foundation software should be routinely administered.
d) Quarterly on-site engineering checkups should be conducted.

Network Operations Center
a) Proactive and continuous monitoring should occur for server event logs and the networking infrastructure, including router, firewall, servers, and switches.
b) Service technician and/or engineers should be able to remotely connect to the Client's network to perform emergency interventions as needed. For any of these incidents, the intervention should be unnoticed by users and will result in a maximization of network availability.
c) The network should be continuously monitored on a 24/7 basis and automatic response alerts should be issued to key personnel.
d) 24/7 emergency call support should be provided beyond the normal business hours Help Desk support. In the event of an after-hours emergency when the Help Desk is called, Emergency After-Hours support should be seamlessly provided. In such cases, a certified engineer should receive the call and work through the issue.
e) Monthly status reports are delivered to provide an account of any findings and actions taken under the MITI program.

Software License Management
a) All software licenses provided under a MITI program should be managed throughout the term of the contract.

b) Anytime there is a free software revision upgrade or a new patch released for licenses provided under the program, the Client should receive this from the manufacturer.

c) The MITI vendor should determine if the patch or new upgrade is needed to enhance the Client's efficiency and install the upgrades at no cost.

End-User Support

a) Unlimited Help Desk support should be provided on a named-user basis, for normal business hours.

b) A 1-800 phone number should be provided for all Help Desk support and services calls.

c) If a problem is during normal business hours and cannot be resolved by the Level I Help Desk, the call should be escalated to Level II Support and a certified engineer should remotely resolve the issue or be scheduled to arrive on-site.

d) Same day response should be guaranteed for emergency situations.

Hardware Maintenance and Warranty

a) Onsite equipment and hardware service hours should be provided for normal business hours.

b) On-Site technician support should be made available when necessary for problem resolution.

c) The MITI vendor should apply patches and service packs on workstations covered under the program as deemed necessary and at no cost to the Client.

d) All hardware and parts should be warranted for the term of the MITI contract. Any items that cannot be repaired should be replaced under the program at no charge to the Client. However, it is acceptable for MITI vendors to apply a labor charge for the service.

e) Billable parts and labor on-request service should be available from the MITI vendor for items that are not covered under the MITI contract.

Special Client Requested Technical Support

A good MITI contract should provide some number of hours per month (e.g. 4 - 8 hours) of special client requested technical support (SCRTS) to address user needs that fall outside the scope of the Workstation and User Support described above.

a) SCRTS hours are best if they can be accumulated (rollover hours) so unused hours from one month can be rolled into the balance available for the next month.

b) SCRTS dollars are typically drawn down at an applicable hourly rate dependent upon the type of support requested.

c) The program should offer a provision that if the Client uses up the entire monthly allocation of SCRTS hours and requests additional services, Client can request additional hours on a pay-as-you-go basis.

d) The program should provide that the vendor will support requests to service any infrastructure issue even if it is not covered by the program, and that support should be billed on a pay-as-you-go basis.

Server Backup, Monitoring and Recovery Services

a) It is imperative to seek a program which includes the implementation of an automated disk to disk backup process, backup monitoring and verification and backup vaulting services. This combination of services completely eliminates the need for a local tape backup process.

b) Demand a service which eliminates tape handling at the Client site by performing the backup remotely on a hard drive and then duplicating the backup and storing it via electronic vaulting.

c) Monitoring is a key aspect of this service to look for because it ensures the integrity of each backup, and the backups are performed in a systematic manner with a respective recovery process that ensures that individual files or an entire server can be recovered.

d) Seek a file or server recovery process which can be performed via a Web application interface because that is a key feature which facilitates client self-sufficiency in the recovery process.

Continuous Improvement Audit

a) A MITI program should prescribe a contract which is renewed on a periodic basis (e.g. every 3 years), and prior to contract renewal a formal audit or re-evaluation of the Client's IT infrastructure should be performed. As the contract nears expiration, the computing environment is reassessed and any necessary hardware/software upgrades and other corrective actions are negotiated into the next contract. This aspect of the program is enormously important as it effectively delivers a continuous improvement plan that ensures the organization never falls behind the technology curve again.

b) The program should deliver a consistent and predictable expense that an organization can plan to and budget for.

c) The monthly fee should be easily adjustable up and down to add or subtract users as business demands dictate.

d) Typically, costs for the hardware and software component of the program will be reduced in the second contract installment since some of the components of the computing environment will remain functional and serviceable in the subsequent contract period.

The Economics of a Managed IT Infrastructure Program

What do you think it would cost to gain the benefits described so far? The extent of the change to the status quo is so massive and the coverage so comprehensive that the solution would appear to be unaffordable. To the contrary, MITI programs are quite affordable and typically can be implemented within or below an organization's current expenditure for IT infrastructure management.

Revisiting the case study example offered in the opening of this paper, the growing manufacturing firm in Pennsylvania that was struggling and at risk because of its computing infrastructure, signed up for a MITI program and subsequently completely modernized their computing infrastructure:

- Replaced 2 out of 3 key servers (one was deemed salvageable).
- Replaced a combination of 40 laptops and desktop computers and half of the desktop monitors (20 inch monitors installed).
- Moved email from an outside to an inside service and implemented the latest version of MS Exchange (saved over $8k per year in service fees).
- Implemented new firewall software and security procedures throughout the organization.
- Standardized on server & PC operating systems (Moved from three different PC operating systems, some of which were unsupported, to one).
- Standardized all desktop office software (moved from multiple versions MS Office, Adobe, WinZip, Norton Anti-Virus and more, some of which were unlicensed, to one).
- Implemented a fully automatic and tapeless disaster recovery procedure for their key servers, complete with a Web utility for client self-service file recovery.
- Provided unlimited Help Desk calls for the entire user community along with guaranteed levels of service to the business community.
- Implemented continuous 24/7 network, security, server and backup monitoring.
- Eliminated the risk to the business of a single individual holding the keys to the kingdom.
- Implemented a continuous technology infrastructure improvement program so that the company would never fall behind the technology curve again.

The cost? The above IT overhaul was accomplished for a monthly payment that fit *within* the monthly salary & benefits expenditure for a *single* employee.

Beyond affordable, a good MITI program will also be flexible in terms of financing if it permits lump sum payment in full, partial upfront payments or full month financing. The decision depends on each client's financial tolerance and reserve. If a client has other pressing issues such as a large expenditure for new manufacturing equipment, the client may opt for full financing of the program so it can redirect cash on hand to other needs. However, if financial reserves are available, full or partial payment of either the equipment or the services component of the program may be the preferred route to take.

Conclusion

In the Economics section above, the question was asked: What do you think it would cost to gain the benefits described so far? The question was answered with perhaps the surprising finding that MITI programs are quite affordable and typically can be implemented within or below an organization's current expenditure for IT infrastructure management.

Turning the coin over, we can ask a very thought provoking question, that being: What is the cost to the business of maintaining the status quo?   What is the cost of doing nothing?

Considering the lingering risk to the business, the failure rate and cost of maintaining out dated equipment, the struggle to implement and adhere to guaranteed service levels for the business users, the inability to keep pace with the change of technology, methodology and the impedance to the growth of the business that the status quo presents . . . The cost of doing nothing is enormous.

For organizations that want to be released from the struggle, business risk and cost of IT infrastructure self-management, a MITI approach is a compelling alternative. A good program will offer a comprehensive technology service package to include a Network Operations Center (NOC), Help Desk support, desk-side Support, proactive on-site maintenance and unlimited network support . . . A bundle of services and services levels which cover the entire technology environment to a degree that is virtually unattainable with the traditional self-managed IT approach.

ResiliEnt Business Solutions Company Overview

ResiliEnt Business Solutions, LLC
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ResiliEnt Business Solutions specializes in the delivery of strategic enterprise business solutions ranging from high level enterprise strategic planning and alignment, to the delivery of enterprise technology solutions. These solutions often include high-value business intelligence applications and data warehouses.

ResiliEnt Business Solutions was formed because we believe the professional services industry can do better for its clientele. Our six drivers of customer satisfaction (Great People, Expert Skills, Rapid Application Development Tools, Proven Methodology, Favorable Pricing and Client Care) deliver just that – A satisfied customer!

Services Overview

Business Planning
- Strategic Planning and Alignment
- Enterprise Assessments
- Vendor and Asset Management
- Organizational/Infrastructure Design
- Tactical and Strategic Solutions Design
- Global IT Infrastructure Operations Assessment
- Business Impact Analysis
- Cost Reduction Assessment
- ROI (Return on Investment) & TCO (Total Cost of Ownership), Quantification, and Optimization

Information System Delivery
- Development of New Business Intelligence Applications Including Dashboards and Scorecards
- Enterprise Report Writing
- Legacy Conversion to New Technologies
- Design and development of Data Warehouses, Data Marts and Operational Data Stores
- Enterprise Application Integration
- System/Application/Product Configuration Review and Performance Tuning

IT Assistance
- Assessment Services to Precede Business Intelligence, Data Warehousing and Enterprise Application Integration Initiatives
- Full Project Outsourcing
- Product Assessment, Review and Selection
- Project Management
- Staff Supplementation & Mentoring
- Training and Education
- Managed IT Infrastructure (MITI)