The Overwhelming Challenges of IT Infrastructure Management

Asit Verma
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Executive Summary

IT infrastructure typically consists of heterogeneous components such as complex server and storage environments, business applications, network and security environment, operating systems and tools, and databases. All these components form the core of every business. However, managing them is quite challenging.

Most organizations, today, maintain their own set of tools and skills to keep IT infrastructure up and running while others need technology partners to deal with the pressure of driving down escalating maintenance and administration costs. CIOs of companies who are incapable of supporting in-house IT infrastructure are coerced to answer a few questions before making the right choice:

- How can IT companies provide efficient support for internal and external clients?
- How does IT help in enhancing customer satisfaction?
- How can business professionals secure applications and store business data safely?
- How to optimize and secure IT infrastructure usage?
- How do companies ensure that the services are deployed within budget and faster than its global competitor?
- How can companies save costs, reduce Total Cost of Ownership (TCO) and align it with changing business requirements?
- How can business achieve benefits from IT?

To get right answers, CIOs need to overcome the challenges in order to ensure excellence in every aspect of functioning.

Many CIOs are now looking at IT infrastructure management as a mean to drive business transformation. To transform the way businesses work, CIOs need responsive systems and processes to bridge the gap between operations and business. With this understanding, IT leaders need to align IT with business and manage IT infrastructure as a service model.

This paper surveys the challenges service providers face in managing IT infrastructures. It also lists down solutions for the effective management of IT infrastructures.

IT Infrastructure Management – Industry Challenges and Solutions, and Customer Benefits

Key Challenges of Infrastructure Management

Management of complex IT infrastructure is often a significant portion of Total Cost of Ownership (TCO). In order to reduce the cost involved in managing IT infrastructure while meeting service level commitments, companies need to focus on the following industry identified challenges:

- Pricing
  In today’s turbulent economic environment, there is tremendous pressure on organizations to reduce the cost involved in the management of IT infrastructure. CIOs must adhere to the following three approaches to deliver promised benefits to the enterprise.
  - Defer Discretionary Spending
  - Decommission little or never used applications
  - Re-evaluate the cost of managing applications and adjust service levels based on their utility

These short term approaches help organizations in bringing down the cost by 20%.

Service Level Agreements

Organizations need their IT infrastructures to be available and performing optimally at all times. Any unwanted downtime and degradation in performance can lead to loss of revenue. Since most organizations outsource their IT infrastructures to third party technology partners, they need to implement Service Level Agreements (SLAs) to ensure high standards of IT service.
Customer Satisfaction (CSAT)
Listening to customers is vital for businesses to prevent dissatisfaction among customers and to predict what they need in future interactions. Customers must be regularly surveyed in order to understand their IT infrastructure requirements.

The success of an organization depends on how swiftly and smoothly they adapt to the changing customer IT infrastructure demands. A rigid approach to customer needs will never give a competitive edge to organizations over others.

Operating models
Managing IT infrastructure through operating models is the immediate need of today's organizational environment. Companies need to choose their operating models carefully in order to ensure maximum profit and get better returns from investment.

Reporting
IT infrastructure management decisions depend heavily on accurate and thorough reporting. In order to make accurate business decisions, organizations must generate monthly reports to understand the activities and performance of the current IT infrastructure. Organizations must also have tools to help generate reports that can analyze trends.

Right tools
There are many tools available in the market that can be used to manage IT infrastructures. Organizations must balance human aspects, level of integration between the tools chosen and security aspects. Lack of balance may result in ineffective support for business goals or high maintenance and administration costs.

Reliability
Businesses must ensure that IT infrastructure is up and running all the time in order to mitigate business risks involved during a disaster.

Efficiency
An efficient IT infrastructure ensures that lesser number of resources is wasted and high productivity and improved decision making capabilities of the IT personnel are achieved. Any organization must effectively match IT resources to their business needs.

Emerging Technologies
New and emerging technologies enable organizations to reduce the cost involved and ensure high flexibility. However, the benefits achieved from these technologies are elusive as users have to spend a lot of time in understanding and using them effectively.

Plan for Effective Infrastructure Management
As organizations evaluate their current IT infrastructure, they need to focus on providing solutions that help them address the challenges discussed.

- Focus on emerging technologies such as Virtualization and high-availability configurations. Virtualization enables high utilization of IT resources and high availability configuration ensures continuous application availability.
- Adopt a cloud model.
- Use mature tools and processes that deliver right service and support your SLAs.
- Provide dynamic reporting capability and create a portal to store reports for easy access. Individuals can enter problem records and provide feedback on the effectiveness of the service provided.
- Reduce carbon footprint by reducing the number of hardware components required to run IT applications
- Standardize and customize processes to enable enterprise IT to be interoperable.

Business Value of Handling Changes in Infrastructure Management
Once organizations plan for effective infrastructure management, customers are bound to achieve the desired business benefits. Some of them are:

- Higher availability of IT resources resulting in better functioning of systems and applications
- Reduced costs
- Improved business flexibility
- Reduced financial risk
Challenges IT service providers face while managing IT Infrastructure

Global Regulation and Compliance
Regulations and compliances have major implications on customer business needs in order to stay in competition. Managing new emerging compliance and regulatory needs while still complying with the old has generated the need for cost-effective technology framework and services that the service providers need to cope up with.

Changing Customer Expectations
Customers demand bigger and better quality of service at lower costs. To cater to the growing demands, enterprises require a scalable IT infrastructure in order to keep customers satisfied and stay ahead of the competition.

Consumerization of IT for Service Delivery
Enterprises seeking competitive advantage must provide easy access to reports, dashboards, tools and other systems to ensure visibility to the infrastructure management services. Near-real time information will help in delivering excellent service to the customers and will provide users with the flexibility to work from anywhere, anytime.

Emerging or Challenging Technologies
Emerging technologies such as cloud computing and mobility rapidly change the business landscape. Companies have to be in-sync with these technologies in order to provide desired benefits to the customers. Immediate adoption of the technologies will lower the overall cost and will increase revenues of the companies.

Business-IT Alignment
Companies, in order to become more flexible and agile, must manage IT infrastructure based on the clients business needs. They must have an enterprise-wide view of the processes and underlying technologies – that is, they must understand the information flows, applications and infrastructure with traceability across all business units. The traceability should be clearly aligned with the business goals and strategic decisions in order to reduce time-to-market and accelerate revenue realization.

Our Credentials
Case Study 1: Transportation

Business Scenario
The client is a high speed train service that directly links the UK to France and Belgium via the Channel Tunnel since 1994. The client wanted to gear up its IT infrastructure for the London Olympics, 2012, and connect all client offices and stations through a new Wide Area Network (WAN). It also wanted to set-up a helpdesk to provide multi-lingual support for operations in the UK, France, Belgium, Switzerland and the Netherlands.

The client was looking for a technology partner that can provide a turnkey solution towards Infrastructure Management, Apps Development and Maintenance, Wide Area Network (WAN) design and implementation, and implementation of Transformation and Innovation projects.

Value Delivered
The client partnered with NIIT Technologies for a high performance next generation WAN solution for over 15 locations in Europe. The redesigned WAN took care of the bandwidth needs of the client and catered to the forecasted exponential growth in e-commerce. In addition, NIIT Technologies consolidated one primary data center and also a data room center. NIIT Technologies also created a multi-lingual, multi-location helpdesk.

NIIT Technologies was responsible for end-to-end SLA for operations, third party contracts and transformation projects. The team of technical consultants rolled-out over 17 transformation projects and created a state-of-the-art IT estate.
NIIT Technologies solution aligned with latest industry trends provided premier customer experience. The benefits reaped by the client were:

- Ensured higher availability of business systems including the website
- Optimized WAN contract
- Reduced operational cost by approximately 30%
- Significantly reduced power consumption
- Increased response times for business critical applications
- Provided end-to-end automation platform
- 100% virtualization using VDI
- Reduced manpower and improved SLAs for service delivery
- Enhanced end user experience

Case Study 2: Entertainment Group

Business Scenario

The client is an American public gaming corporation that owns and operates over 50 casinos, hotels, and seven golf courses under several brands. The client was looking for technology infrastructure support in the US that included mature, secured, robust, and tested network and windows server; storage back-up and IT service management. The client was scouting for a technology partner capable of recommending a strategy wherein regulatory approvals are received in all jurisdictions where it operates.

Value Delivered

NIIT Technologies followed an onsite-offshore delivery model (90% off-shore/10% on-site) with senior onsite resources working closely with the team at the client side. The offshore delivery team conducted an exhaustive study of the client's IT infrastructure which was completed within a short span of time.

Our knowledge of IT support services helped the client and we embarked on a program providing:

- Consolidated storage at enterprise level
- Centralized service desk and BCO operations now work in tandem with command center
- Centralized operations management and enhanced reporting framework enabling clear demarcation of IT assets
- Vendor neutral approach for upgrading existing network inventory
- Automated and Integrated service management tools with Netcool
- Provided a single view of IT operations through an integrated command center for Network, OS, Storage and ITIL
- Knowledge Management system
- Integrated Tier I layer
- Time-based Access Control Lists on back-up links
- Centralized Reporting/Dashboard
- Proactive monitoring from Integrated Command Center With NIIT Technologies technology infrastructure support, the client achieved multi-million dollar savings.
- Achieved transparent business view enabling increased time efficiencies
- Cost savings of 30-40% in the end-to-end upgrade exercise as compared to As-is upgrade
- Achieved operational efficiency
- Rendered consolidation of existing tool environment
- Provided cost effective implementation of Centralized Knowledge Base across all process/technical tracks
- Increased support utilization resulting in 15% cost savings
- Reduced costs by 20% and enhanced security
- Enhanced capturing of support metrics leading to higher C-SAT
- Reduced support costs by 30%

Conclusion

In order to maintain a dynamic and resilient IT environment, businesses need to effectively manage the IT infrastructure. Organizations that focus on industry-wide and service provider challenges can improve their management capabilities and provide a comprehensive approach to build, implement and manage the IT infrastructure. Tackling the challenges will also help them to align their infrastructure with the business goals and transform it into a more business aligned unit.
About NIIT Technologies

NIIT Technologies is a leading IT solutions organization, servicing customers in North America, Europe, Asia and Australia. It offers services in Application Development and Maintenance, Enterprise Solutions including Managed Services and Business Process Outsourcing to organizations in the Financial Services, Travel & Transportation, Manufacturing/Distribution, and Government sectors. With employees over 8,000 professionals, NIIT Technologies follows global standards of software development processes.

Over the years the Company has forged extremely rewarding relationships with global majors, a testimony to mutual commitment and its ability to retain marquee clients, drawing repeat business from them. NIIT Technologies has been able to scale its interactions with marquee clients in the BFSI sector, the Travel Transport & Logistics and Manufacturing & Distribution, into extremely meaningful, multi-year collaborations.

NIIT Technologies follows global standards of development, which include ISO 9001:2000 Certification, assessment at Level 5 for SEI-CMMi version 1.2 and ISO 27001 information security management certification. Its data center operations are assessed at the international ISO 20000 IT management standards.