WHITE PAPER

MICROLAND®

25 YEARS VISION PASSION SUCCESS

HOW TO ENSURE THAT MANAGING YOUR VDI IS HASSLE-FREE

Key Drivers for VDI adoption are improved data security and compliance, easy management and workforce mobility.

ADOPTING DESKTOP VIRTUALIZATION IN TODAY'S WORK PLACE

Desktop virtualization has evolved rapidly over the last few years, becoming one of the hottest trends in today's digital era. Virtual Desktop Infrastructure (VDI) technology itself has matured since and customers now have several product solutions, from leading vendors, to choose from.

In fact, with businesses turning to desktop virtualization solutions to tackle complex desktop environments, security and compliance issues and an increasingly mobile workforce, VDI adoption rates are up across enterprises globally. As the concept develops, it becomesever more applicable to greater sections of enterprises.

According to a report by IDC, the desktop and server virtualization market is expected to grow at 12.3 percent per year and maintain its pace to reach an overall market share of 20 percent by 2016. Gartner estimates that by 2015, virtualized physical servers deployed for hosted virtual desktops will reach about 368,000 units and account for 16.7 percent of virtualized physical servers for all workloads.

While the rate of VDI adoption has increased, many organizations find it hard to manage & scale their VDI environment post-implementation.

THE STATE OF VDI IMPLEMENTATION IN ENTERPRISES

With the rapidly increasing popularity of desktop virtualization, many early adopters of VDI who rushed into the fray, seeing it as a technology-only solution, are now struggling with post-deployment issues. One problem can be resistance from employees to adopt the new technology. Managing the VDI is also a challenge for many organizations.

In several cases where Microland has been called to "rescue the VDI solution", it has been observed that a majority of these implementations fail to deliver, primarily because of the lack of focus on and inadequate planning with regard to the operational aspects of VDI implementation. Due to this, some enterprises have not even been able to scale beyond their pilot projects. It is

observed that large-scale VDI rollouts fail to be as effective as they should be when deployment and management are not built around a standardized methodology.

CHALLENGES FACED BY ENTERPRISES IN IMPLEMENTING DESKTOP VIRTUALIZATION

Many enterprises are accepting the need for desktop virtualization in their work environment for the advantages it provides in centralized management, improved data security, flexibility across devices and reduction of TCO.

ADVANTAGES OF DESKTOP VIRTUALIZATION

Ensures data security

Virtual desktops do not contain data, keeping information secure even when hardware is lost or stolen.

Enhances IT productivity

IT is capable of solving client problems collectively, rather than one at a time.

Offers flexibilty across devices

Desktops are made available instantly on the employee's device of choice, irrespective of their location, as long as they are connected to the internet.

Greatly reduces hardware costs

Upgrading and maintenance need only be done on the server-side. Additionally, server hardware does not require upgrades as frequently as client hardware does.

Better disaster recovery

The central management and protection of desktop images and data help enterprises recover quickly from disasters when they occur.

> ***When it comes to implementation, setting up a sound desktop virtualization technology and service raise a number of questions and challenges that need to be addressed by the enterprise.***

However, setting up a VDI is not simply a matter of purchasing and implementing it as a technology solution.

> ***Key Drivers for VDI adoption are improved data security and compliance, easy management and workforce mobility.***

CHALLENGE OF COMPLEXITY

VDI requires a number of technology layers to work in harmony: storage, computation, virtual desktop operating system and application software, endpoint operating system and application software, peripherals and end user personalization. Each of these may be the responsibility of a different IT team, thereby increasing complexity. Properly capturing personalized user data to maintain user experience further increases the complexity and cost.

CHALLENGE OF USER EXPERIENCE

Maintaining user experience is one the most important challenges in the implementation of Desktop Virtualization. End users are apprehensive about changing their working environment as doing so may affect their productivity. It is the responsibility of the enterprise to ensure a smooth migration from the existing desktop model to a virtualized one, without compromising on user experience. Therefore there is a need to define and measure these parameters. This would require a user experience monitoring and management tool to be put in place.

CHALLENGE OF VDI SERVICE DELIVERY AND ITS MANAGEMENT

Desktop virtualization fundamentally changes the desktop/end-user environment paradigm effectively,swapping a one-to-one paradigm for one-to-many (or few-to-many) paradigm. This change brings in lot of complexities in the management of the virtualized environment.

Image management, user profile management, desktop/application provisioning &reclamation process, application virtualization process, access management, data security management and BYOD policies are some of the areas for which new capabilities need to be developed and planned.

Keeping these challenges in mind, any enterprise looking to deploy desktop virtualization on a large scale must ask themselves the following questions:

1. What technology solution best suits the enterprise's needs?
2. Are there requirements of peripheral technology solutions to VDI platform for effective monitoring & management?
3. How can this technology be implemented in a way that allows flexibility, ease of management and scalability?
4. Which are the right-fit user profiles for VDI?
5. How to deploy desktop virtualization for different sets of user groups?
6. How to ensure a user experience similar to or better than that provided by a traditional environment?
7. How to provide for and reclaim virtual desktops for users as per demand?
8. What policies, processes & procedures need to be changed or newly created to manage this new delivery model?
9. What support structure needs to be put in place to manage the environment end-to-end?
10. How to ensure compliance with security and regulatory requirements?

THE NEED FOR EFFECTIVE CHANGE MANAGEMENT IN VDI IMPLEMENTATION

A full-fledged VDI deployment alters roles of support structure, delivery processes, IT policies and user behavior and hence needs to be viewed as a critical Organization Change Management Project.

In short, a full-fledged VDI deployment alters roles of people, delivery processes, IT policies and user behavior and hence needs to be viewed as a critical Organization Change Management Project. At a high level, one should realize that:

1. It will fundamentally change the workspace delivery model.
2. It may also alter the organization's IT support structure.
3. New policies would need to be defined and new processes put in place to accommodate the changes in service delivery and support structure.
4. A comprehensive desktop virtualization solution would require solutions for each aspect of user workspace – Operating system, applications, peripherals, data and profile management among others.
5. A successful deployment of desktop virtualization requires a "First Time Right" approach as it will directly impact a large number of users in the organization.
6. Not keeping operationalization in mind leads to support issues during rollout and adversely affects user experience. Without a proper understanding of the various user profiles and a right-fit delivery model, the migration may invite resistance from end users.

WORKING TOWARDS A SUCCESSFUL VDI DEPLOYMENT

In order to address these challenges effectively, a VDI deployment requires a holistic approach that takes into consideration not only technology implementation, but also the operationalization of the new environment.

A VDI deployment can be deemed successful only when the service provider is able to:

1. Guarantee performance through appropriate design & architecture.
2. Effectively & efficiently manage the environment post-deployment through the use of right processes, people and technology.

3. Guarantee agility & predictive cost analysis to the business for all future deployments.

Therefore, any enterprise looking to deploy desktop virtualization on a large scale must ask itself the following questions:

1. Is our idea of VDI deployment solely technology-based or is it a holistic transformation of the user desktop environment through a new service delivery model?
2. Are we ready to support this new technology and service environment? If not, what changes do we need to make?
3. How can the technology be implemented in a way that allows flexibility, ease of management and scalability?
4. How do we manage the new technology and service environment to ensure service availability, performance and agility to end users and business units?
5. How do we manage the desired user experience in the new environment?

Most enterprises are aware of the importance of VDI, but only a few are truly aware of the intricacies of implementing and thereafter managing it. A large scale deployment requires a comprehensive strategy, deployment and operational plan that is sustainable and scalable for future requirement. VDI Product Vendors would only help in designing and implementing the technology solutions, but not the operational elements. This is where Microland, as a service provider, steps in.

For a successful VDI deployment, technology is but one half. The picture is completed with efficient operationalization.

OPERATIONALIZATION

A 360 DEGREE APPROACH TO END-TO-END VDI IMPLEMENTATION

Operationalization *– Defining performance parameters and building the underlying operational support structure to deliver guaranteed performance.*

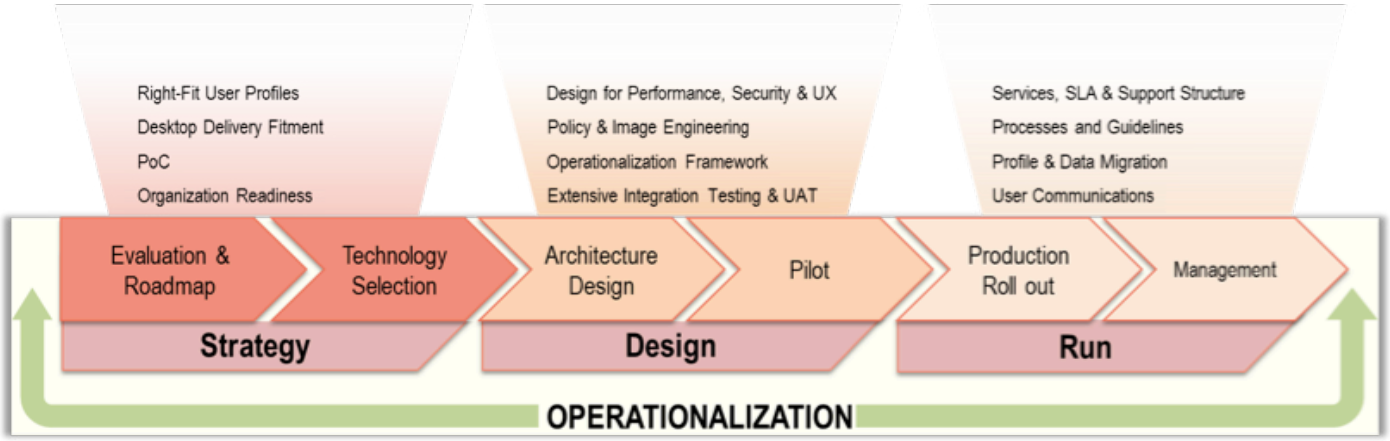
Essentially, Operationalization involves foresight into an enterprise's readiness to adopt or adapt to a new desktop virtualization solution. Microland's view is that implementing VDI should not be seen as solely a technological implementation, but as a complete transformation of end-user workspace through a service-oriented approach.

VDI Operationalization transforms a VDI initiative from a Technology oriented approach to a Service Oriented Approach.

MICROLAND – BRINGING VDI OPERATIONALIZATION

As a pure play infrastructure services provider which understands the complexities of operationalizing a large scale deployment of desktop virtualization, Microland offers its customers a full-fledged deployment plan. It starts right from choosing the solution, to the full implementation and operationalization, helping enterprises achieve their virtualization goals.

Microland has taken the initiative to understand and stay updated with the best and latest technology solutions for Desktop Virtualization, studying their applications and limitations in order to be able to recommend, in a professional capacity, the best solution for your enterprise. It is our aim to understand your requirements and deliver a solution best suited to the status quo of your present infrastructure.



Above is a barebones representation of the life cycle of deployment of a VDI. Microland can assist at any stage in the life cycle: be it at the case assessment, design or implementation, and guide the customer on a path to successful implementation thenceforth. To do so effectively, Microland employs the approach we call 'Operationalization'.

NEED FOR OPERATIONALIZATION

- As a pure play implementing a desktop virtualization will fundamentally change the user workspace delivery model.
- Implementing desktop virtualization will alter the organization IT support structure.
- New policies will need to be defined and new processes put in place to accommodate the changes in service delivery and support structure.
- A comprehensive desktop virtualization solution would require solutions for each aspect of user workspace, such as OS, applications, peripherals, user data, profile management etc.
- A successful deployment of desktop virtualization would require a "First Time Right" approach as this initiative is going to directly impact large numbers of users in an organization.
- Not keeping operationalization in mind leads to support issues during roll out and affects user experience.
- Without a proper understanding of user profiles and a right-fit delivery model, users may become resistant to migration.

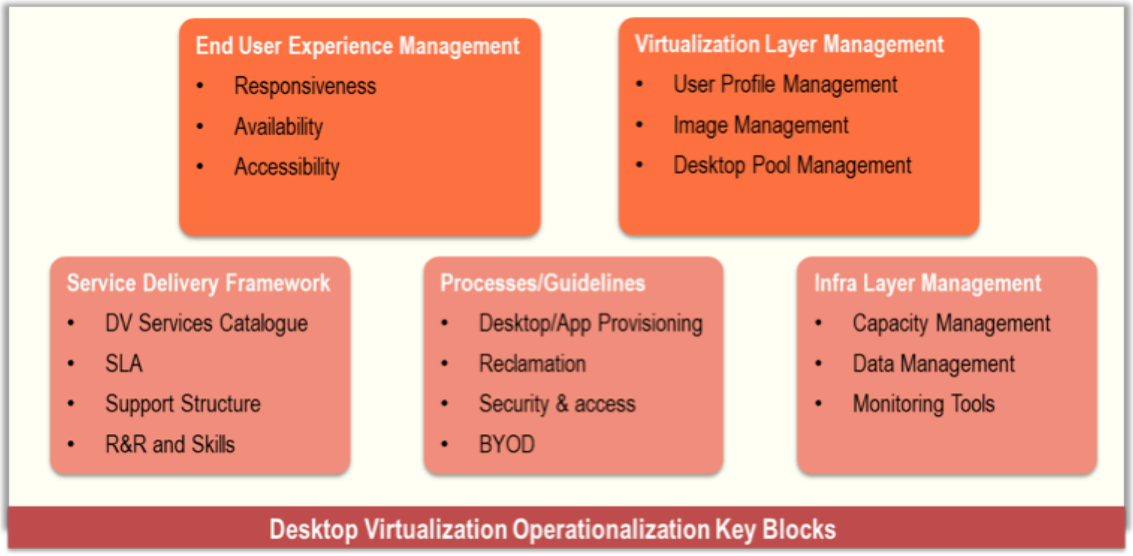
CORE FOCUS OF OPERATIONALIZATION

"Operationalization ensures a "First Time Right" solution, delivering an effective design, a successful deployment and smooth management thereafter.

The core focus of operationalization must encompass all layers of technology and services.

- Implementing Desktop-as-a-Service
- Design & implementing the service keeping user experience in mind
- Defining the delivery model & framework
- Defining and developing policies, processes and guidelines
- Determining the level of organizational readiness with respect to existing infra services, support structure and skills
- Monitoring and measuring end user experience
- Managing the VDI platform layers and core infrastructure layers

Operationalization ensures a "First Time Right" solution, delivering an effective design, a successful deployment and smooth management thereafter. The comprehensive planning of resources, technology and architecture eliminates surprises during design and implementation and avoids any unnecessary delays. Operationalization allows for seamless enterprise-wide transition to the new VDI environment, while ensuring a consistent user experience.



MICROLAND'S 7-STEP 'OPERATIONALIZED' APPROACH TO VDI IMPLEMENTATION

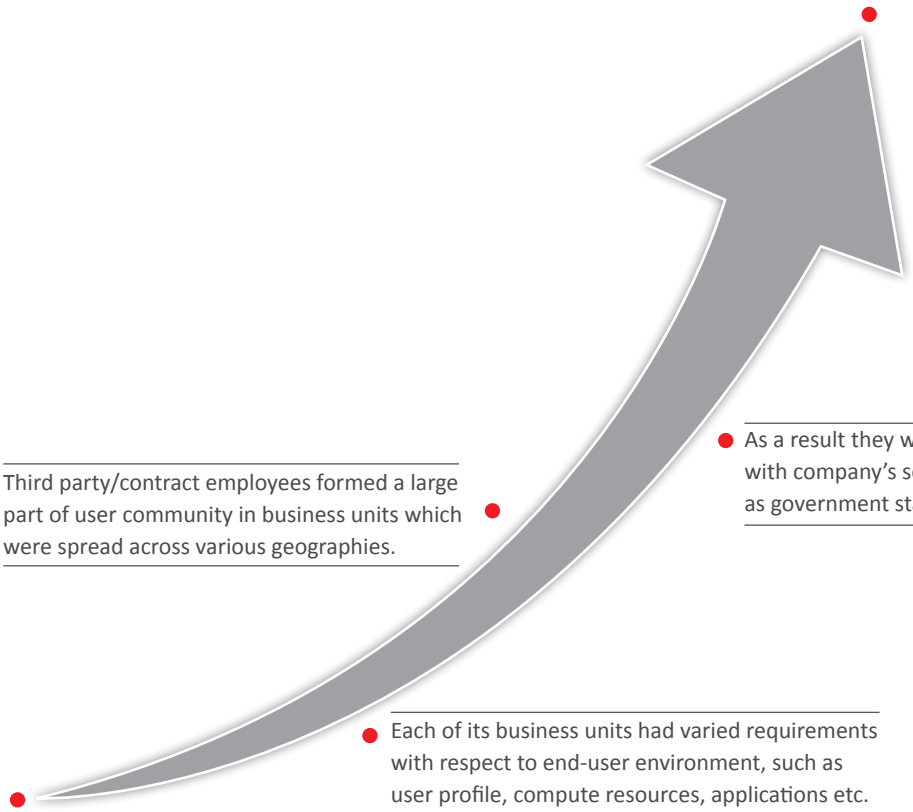
To summarize, Microland recommends a structured 7-step approach to successful VDI implementation:

1. Identify the approach and determine overall framework for operationalization of VDI environment.
2. Create operational procedures that enable VDI to function as a service offering and not be managed as a one-off situation.
3. Define standardized VDI services across business units for common SLA and support structures.
4. Plan for and focus on User Profile Management, Desktop Pool Management, Access Control and Identity Management, Virtual Infrastructure Management, etc.
5. User Profile assessment must be the starting point for any VDI deployment.
6. UAT phase is essential to validate all functionalities before moving to pilot rollout phase - "First Time Right" is key.
7. User communication and training on the defined processes must be given for successful user experience management.

OPERATIONALIZATION
A CASE STUDY

Microland helped this Fortune 10 Multinational Company by creating an entire VDI Operationalization Framework to roll out VDI solution across its various Business Units spread across the globe.

The roadmap included detailed standard and custom services, support structure, service cost model & billing process, operational process & guidelines and implementation toolkits & methodologies.



A Fortune 10 company, with its business units spread across the globe, was undertaking an enterprise wide workspace transformation project.

Each of its business units had varied requirements with respect to end-user environment, such as user profile, compute resources, applications etc.

Third party/contract employees formed a large part of user community in business units which were spread across various geographies.

As a result they were required to comply with company's security policies as well as government statutory requirements.

HOW DID OPERATIONALIZATION BENEFIT THE CLIENT?

- Faster buy-ins from business units to adopt desktop virtualization
- Appropriate service offerings for the right user groups
- Effective implementation through phase deployment toolkits
- Reduced time and effort in each deployment phase
- Effective operation management
- Well-defined services, SLA and support structure cut down ambiguities in service provisioning

FUTURE-PROOFING VDI THROUGH EASY MANAGEMENT AND SCALABILITY

The client, owned by more than 7,700 community financial institutions of all sizes and types in every U.S. state and territory, helps meet the borrowing needs of communities by providing wholesale credit products and services to member financial institutions.

The client did not have a strong reference architecture for design and a framework for operationalization. They were facing optimization challenges in their desktop antivirus solutions and Thinapp application packaging. Furthermore, the client lacked metrics based on which they could measure VDI performance and end-user experience.

Microland defined use cases by profiling different user groups and designed requirements for a right-fit user profile. The existing VDI and connected hardware and network achitecture was optimized and high level design was executed across different areas of operation including disaster recovery. The desgining, patching and distribution of the client software component of the solution was also undertaken by Microland.

HOW DID OPERATIONALIZATION BENEFIT THE CLIENT?

- Ability to efficiently scale the VDI environment from 50 to 400 users within 50 days
- Significant improvement in performance and end-user experience
- Elimination of the client's need for a third party product for disaster recovery resulting in significant cost savings

THE WAY AHEAD

Enterprises need the assistance of an IT infrastructure expert like Microland through the complete life cycle of VDI to address operationalization challenges and have a seamless implementation of a Virtual Desktop Infrastructure in the organization. Our services are tailored according to these needs and focus on enabling an enterprise's desktop infrastructure transformation strategy. Covering all your needs with its comprehensive service offerings, Microland is a one-stop solution for your VDI transformation journey.

Microland can help you if:

1. You have made a decision to go ahead with implementing VDI but are not sure which technology platform is suitable, which user profiles are right-fit and/or how to best design and build the VDI environment.
2. You are already in VDI journey but are not able to scale beyond pilot setup due to performance and/or user adoption issues.

3. VDI technology implementation has been completed but you need guidance to operationalize it.
4. You are grappling with performance, availability and scalability issues.
5. You are looking to implement a Desktop-as-a-Service model in your business units, including billing and chargeback, as well as a self-service portal driven by defined service catalogue, but are not sure how to achieve this.

Microland is an IT infrastructure services specialist. We have invested significant time and effort in developing capabilities, processes and automated tools for deploying, operationalizing and managing virtual desktop environment from on-site and remote locations. Through these capabilities, Microland strives to enhance end-user experience in a virtual desktop environment.

About Microland

Microland is a leading Hybrid IT Infrastructure Service Provider and a trusted partner to enterprises in their IT-as-a-Service journey. Incorporated in 1989 and headquartered in Bangalore, India, Microland has 2,700+ professionals across its offices in Europe, Middle East, North America and India. Microland enables global enterprises to become more agile and innovative through a comprehensive portfolio of services that addresses Hybrid IT Transformation, Workspace Transformation, Service Transformation and end-to-end IT Infrastructure Management.

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