

## BFSI Case Study: Managed VDiCE

# Curiosity to Whirlwind Transformation

A Blitzkrieg Strategy to combat COVID 19

### 6000 VDI Users Delivered

Infrastructure: Microsoft Azure

Service: Windows Virtual Desktop

Software: Microsoft 365 Enterprise

Profile Containers: FSLogix

Storage: ICE Storage on Azure

End Point: ICE SD Thinclient

Monitoring: ICE Session Monitor

Scaling: ICE Auto scaling tools

App Delivery: Web & Netscaler

### Performance Delivered

4-5 vCPU Equivalent Per User

All Flash Storage Architecture

450,000 iOPS Delivered

5GBPS Throughput

### Compliance Delivered

PCI DSS Compliance

Data in Motion Encryption

Zero Data footprint

Multifactor Authentication

Micro-segmentation

Zero Trust Firewall Architecture

### Management Delivered

24x7 Availability SLA

Policy and Compliance Control

Resolution and Response SLA

Performance Guarantee

Financial Cost Management

When the world was shutting down due to Covid-19, how one bank moved all its employees Cloud VDI to ensure that they safely work from home and in the matter of days. This solution now is the new normal and the long term innovation strategy of this Bank which is 100% in compliance to Security and data regulations which utilizing the full potential of the cloud native platform architecture with highly reduced TCO and improves user experience.

### ICE – Concept of Infrastructure Efficiency with Cloud VDI

Within IT Infrastructure management the idea of capital investment cycle's year of year driving up operational costs was not a new phenomenon. When we start looking at managed options available from public cloud vendors, the ability to segregate and bifurcate the platform based on business function and demanding utmost efficiency from the spends becomes possible. The basic criteria on which platform options are segregated are public or private utilization (based on mode of connectivity, if the service is available via network access like LAN, WAN, VPN etc then this is considered as private traffic or if it is via a published internet access layer then it is public traffic) or consistently or inconsistently consumed Infrastructure. VDI in principle is a private inconsistently consumed solution which with Multi-session eco-system can provide drastic cost savings and operational efficiencies on hyperscale public cloud eco-system.

### About Managed VDiCE

Intertec's Managed VDiCE is a productised offering which is delivered to customers as a fully integrated service reducing the perils of management of end user computing to just hardware support and access to internet access. Intertec's Managed VDiCE option utilizes a combination of Microsoft managed PaaS service – Windows Virtual desktop along with a combination of 3 unique IP-Cosell solutions that are proprietary developments of Intertec along with 4 more partner IPs that allow us to deliver a completely unique value proposition most suited for organizations looking for adherence to Enterprise grade security, Service availability and Data compliance standards, with central management and control.

#### Available Options

- Managed VDiCE with Native VPN Connectivity
- Managed VDiCE with Network as a Service over Enhanced Internet Options
- Managed VDiCE with Citrix Cloud Management Layer
- Managed VDiCE with Hybrid Citrix Management Layer
- Managed Desktop as a Service.

## AS-IS State Analysis – Mid 2019

The customer had 4000 active users running on an On-Premise VDI Architecture on a Legacy HCI eco-system and planned to expand this footprint to 7000 users. The idea of Hybrid expansion into Azure was being considered with the native Virtualization tool for desktop and app player utilizing Azure VMs as a simple Infrastructure replacing the existing HCI architecture along with Azure also being considered as a business continuity platform. The expansion of the primary eco-system was a farfetched idea considering that the concept of a banking user based natively running out of a public cloud platform was unheard of in the GCC region. Intertec Cloud team engaged with the customer in Mid of 2019 with a clear motive to maximize the footprint of the entire user base on Public cloud ecosystem to deliver maximum consumption efficiency utilizing the inconsistent consumption patterns, Multi-session deployment strategy and utilizing auto-scaling capabilities to ensure that maximum cost savings are delivered to the customer.

To achieve this result we started a comprehensive AS-IS state analysis engagement which was our investment into understanding as to how we can deliver comprehensive value around our approach. The topics of our engagement included

- Understanding the current VDI Setup
  - Profile capacities : CPU, RAM and Container Size
  - Profile categorization by business
  - Profile categorization by application access
  - Profile categorization by geographies covered
  - Profile Data access and mapping
  - End Point OS
  - End Point Security
  - End Point Encryption
  - End Point Backup
  - End Point devices
  - End point Locations
  - Data Center locations
  - Data Center HCI Vendor
  - Data Center Storage Footprint
  - Fileshare acces
  - Fileshare compliance
  - Existing DLP solution
  - Existing CASB solution if any.
  - Existing firewall
  - Existing SDWAN solution
- Understanding the Active directory setup and future movement into a Hybrid Platform architecture
- End Point Device compliance and End point management
- Network Connectivity, integration and security.
- Existing Data platforms
- Existing Microsoft Agreements and consumption
- Existing Business Functions
- Existing Locations
- Network Bandwidth
- ISP contracts if any.

Post the Study we provided a To-BE State where in we presented unique value of our solutions

- Intertec Managed Storage Platform on Azure
- Intertec Managed End point , Software defined thinclient architecture
- Intertec Managed Network Fabric Architecture
- Intertec Managed VDICE with Hybrid Citrix Option
- Intertec Integrated solution for Expressroute

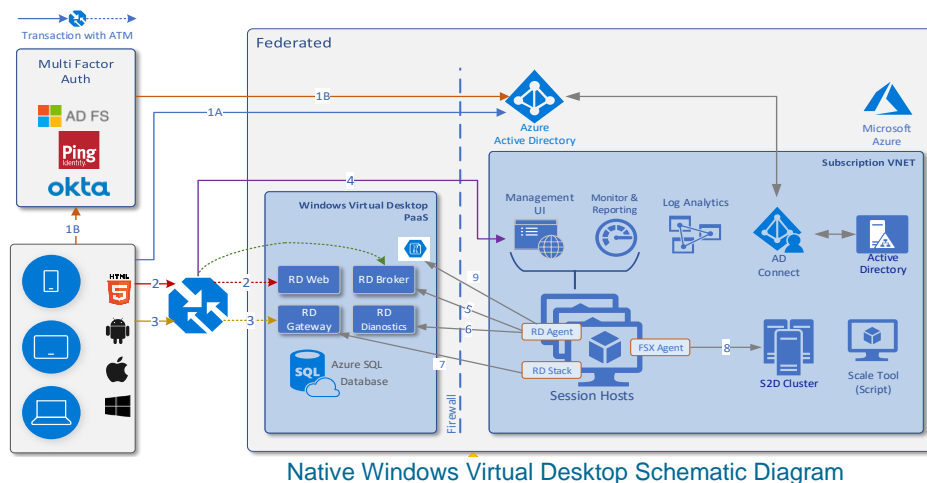
While we were still in process of presenting and alligning the key vendors, Microsoft Released windows virtual desktop as a global availability in the Q4 2019. This changed the entire dynamics of the solution and we modulated our solution from hosting simple IaaS Virtual machines in Azure to utilizing WVD as the primary compute architecture that can delivered Managed VDICE as a motion.

## What is Windows Virtual Desktop?

While we were still in process of presenting and alligning the key vendors, Microsoft Released windows virtual desktop as a global availability in the Q4 2019. This changed the entire dynamics of the solution and we modulated our solution from hosting simple IaaS Virtual machines in Azure to utilizing WVD as the primary compute architecture that can delivered Managed VDICE as a motion.

Windows Virtual Desktop is a desktop and app virtualization service that runs on the cloud. Here's what you can do when you run Windows Virtual Desktop on Azure:

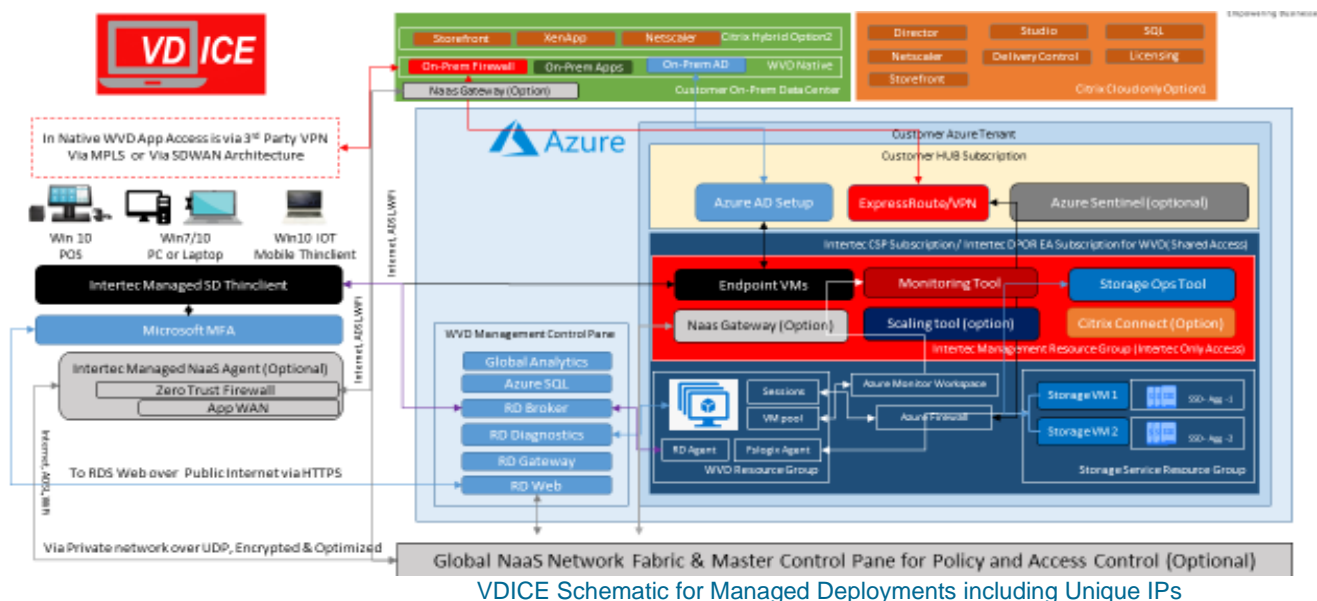
- Set up a multi-session Windows 10 deployment that delivers a full Windows 10 with scalability
- Virtualize Microsoft 365 Apps for enterprise and optimize it to run in multi-user virtual scenarios
- Provide Windows 7 virtual desktops with free Extended Security Updates
- Bring your existing Remote Desktop Services (RDS) and Windows Server desktops and apps to any computer
- Virtualize both desktops and app
- Manage Windows 10, Windows Server, and Windows 7 desktops and apps with a unified management experience



While WVD was new Intertec immediately invested in developing our solution around WVD which make utmost sense as this reduced the TCO drastically which reducing management overheads. Some of the proprietary solutions with Intertec developed as a competency around WVD to make the Intertec Managed VDICE as a Solution to protect our brand and our unique innovation capabilities. WVD specific IP innovations were as follows along with their individual advantages.

- Managed FSLogix Storage Eco-system
  - Mitigates Boot storm Possibility: When we are sizing a storage for a VDICE deployment we ensure that we delivery a min 50iOPS per user allocated to the storage cluster, but since the profile images are deduplicated and read from points of data rather than from actual data blocks the entire aggregate is not activated at once with the users all try to login at the start of business.
  - 50% overll cost reduction over 3 year term when compared to native options available with WVD which are not deduplicating the data as well as don't provide pay as you grow functionality of thin provisioning.
  - The Storage cluster we create is a multi-purpose unified storage which can be used to host the WVD session hosts, and later can be used to host the user file share access from branch locations (if allowed by regulation, since third party encryption is available and controlled by customers) , ISCSI block storage to host virtual machines as well as a persistant kubernetes cluster for DevOps.

- Session aware monitoring breakdown along with process wise analysis.
  - Native WVD allows for VM level performance to be monitored.
  - Native WVD sessions are capable of over utilizing the allocated space per session and hence it is important that users consuming heavy loads of compute be regulated which means it is important to be aware of each users utilization patters and the process driving those heavy loads.
  - Intertec's effort here is to build competency and deploy a central view of all our managed WVD sessions allowing us to regulate the performance and the counter impact on other users sharing the session pool.
- Central Data Management and storage eco-system
  - Automate data replication between multiple clusters and nodes and replicate data on the fly from cluster to cluster as well as from on-premise storage eco-systems and create polocy based replication
  - Tier data from active flash ssd eco-system to blob storage mimicing virtual storage tiering functionalities that we are used to utilizing in enterprise storage eco-systems for improvement of performance and reduction of costs.
- Autoscalling tool and Scripts:
  - As discussed above sessions are elastic, it is also important that business profiles using the pooled multisession architecture below 6 hours in a day average to be able to use a scalable PAYG ecosystem. But the reduction of costs only happens when your infrastructure is able to visualize and predict their usage pattern and allocate the sessions on VM hosts that can be less persistant, and under depth mode of operations.
  - Since no eco-system in the world has developed session mobility till date achieving the desired results of cost saving requires careful deployment of session aware scaling arhitecture that can learn and then manage the session availability along with VM Scaling
- Reporting Structure:
  - Intertec's Proactive and planned reporting structure includes
    - Real time session activity view
    - Real time data activity view
    - Real time network activity view
    - Weekly Policy checks and status reports
    - Weekly SLA report on Management KPIs
    - Monthly Consumption analysis and accuracy and confindement of estimates
    - Quarterly efficiency analysis overall.



## Post Covid-19: A Race against time

When the world was HIT By covid a lockdown was imminent in March 2020. By this time the bank had invested time and effort with us on understanding and testing the deployment eco-system and were ready to take full advantage of this investment. When the HR requested the IT to ensure that users can continuity to operate to work from home we stepped into action.

On Day one we setup the landing zone in a green field subscription and tenant. We setup the first Storage cluster the Active directory setup, the VPN and the rules and policies. Since then ever 2-3 days we were deploying 1000 user pools into the setup and by day 15 we had 6000 active users 6 storage nodes and a policy and control which ensured that no user or department faced the challenge of unavailability of the service

During this time the BANK, Microsoft and Intertec worked closely as a single team under lockdown from our homes to ensure that the service is delivered and created a success. All along Intertec controlled the entire deployment architecture, the scope and the policy which was checked and verified on every step of the process by global experts on the pass service.

Post deployment Intertec submitted a host of comprehensive documents to showcase the deployment, the remediation, the change management workflow, and the self-service architecture. Today all the users are managed by Intertec team and it is the new normal projected to be active atleast for the next 3 years in this environment and users even after returning to work or field will continue to use this platform as it improved their performance and ability to work from anywhere.

## About Intertec Cloud Experience

While cloud is universally same and globally dependent on its SaaS, PaaS and IaaS technology and platform providers, Intertec is investing in this business model for creating a local practice for companies in GCC and India to take a three step approach to adopting the right cloud transformation strategy ahead. This process defines an experience for the customer which is a journey of being a completely a capital investment driven IT organization to a maximized efficacy and a business oriented IT organization which takes advantage of the right combination of SaaS , IaaS and PaaS services on Public or Private cloud platforms. Hence Intertec aspires to be a leading Hybrid Multi-cloud Managed Services provider for its customers delivering Quality Consultation, Assessment and strategies, an expansive end to end service catalogs and a holistic management framework with unified business and IT architecture to deliver a OneICE platform which delivers a single pane of the glass experience for customers to enable manage and transform their business using cloud as a strong pillar of support.

As a Collaborative Strategy partner we share the responsibility with the customer to consult, transform and manage their Hybrid IT.

