Migration plan for <partnername>



Datacenter Migration Program

Prepared for

<<Insert Customer Name in Doc Properties>>

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1. Document Summary

This document outlines a plan for the migration of the **<<Insert Business System Name in Doc Properties>>** business system from its existing Windows Server environment to Windows Server environment in Azure. The Migration Plan is based on:

* Information collected from the Customer Catalog
* The results of the Cloud Assessment
* Information and artifacts provided by <<Insert Customer Name in Doc Properties>>

and outlines the approach to facilitate the migration process. It is the primary deliverable of the Planning Phase and includes:

* General and common migration tasks
* Migration tasks specific to the <<Insert Customer Name in Doc Properties>> environment
* Migration tasks specific to the <<Insert Business System Name in Doc Properties>>

1. High-Level Architecture
   1. Business System Structure

Describe the high-level architecture of the solution that will be migrated. This should come directly from the Application Owners. This can include specific servers, but more importantly tiers/roles/components of the given Business System.

Business System Name: <<Insert Business System Name in Doc Properties>>

The contact information of application stakeholders:

|  |  |  |
| --- | --- | --- |
| Contact Detail | Name | Role |
| person@e-mail.com | Name | Title |

* 1. Business System Servers

Describe the servers which exist in the current Business System. Examples:

|  |  |  |
| --- | --- | --- |
| **Server Name** | **Operating System Level** | **Server Role**  **(App/Database/Infrastructure)** |
| Server1 | Windows Server 2008 R2 Standard SP1 | File Server |
| Server2 | Windows Server 2012 Datacenter | File Server, Database Server |
| Server3 | Windows Server 2012 R2 Standard | Application Server, File Server |
| Server4 | Windows Server 2008 R2 Standard SP1 | Application Server |

1. Migration Strategies

Use this section to describe the one or more strategies that will guide the migration process. These do not have to be mutually exclusive but may describe different pieces of the overall migration. Strategy could be organized around releases (related to the business or to development/technology maturity) or organized around solution components. These strategies also need to consider moving legacy systems into the new solution environment.

Justification: Developing strategies ensures that the migration process is not a “one-off” activity, and that the solution and its environment are approached strategically.

This section describes about Lift and Shift Migration Strategy for this Business System.

|  |  |
| --- | --- |
| **Migration Strategy** | **Description** |
| Server Migration to Azure | <<Insert High Level Summary of migration approach and call out any important details>>  *For example: business systems contain Server 2003 workloads that must be migrated to a Hyper-V host first.* |
| Tool Usage | All migrations to Azure IaaS will be performed with <<Azure Site Recovery>> or <<DoubleTake Move>> or <<Another Tool>>  All migrations to Hyper-V will be performed with <<Insert Tool>> |

* 1. Cloud Suitability Assessment Results

|  |  |  |
| --- | --- | --- |
| **Server Name** | **Suitable for Azure Server Migration** | **Comments** |
| Server1 | <<Insert Results Summary>> | <<Insert any comments>> |
| Server2 | <<Insert Results Summary>> | <<Insert any comments>> |
| Server3 | <<Insert Results Summary>> | <<Insert any comments>> |
| Server4 | <<Insert Results Summary>> | <<Insert any comments>> |

* 1. Implications

Describe the impacts caused by the migration and what other things will need to occur in conjunction with the migration for it to be successful. This may include training, acquisition of hardware, changes in user environment, facilities and support, and so on.

Identified on premise business system server will be configured for replication to Azure using Azure Site Recovery.

There is no downtime involved during VM replication using ASR. During planned cut-over of the business system server production service interruption will happen. This needs to be planned during the off-peak business hours.

Appropriate changes should be made by Application Owner wherever host names are hardcoded in application, application configuration etc. to fix the issue.

1. Migration Environment

Use this section to provide details on the existing and/or future environment in which the solution will operate and the people who will use the solution. Include descriptions of the current environment (all relevant aspects) and the future environment (hardware/software, facilities, etc.).

* 1. Business System Overview

Enter any pertinent information about the business system here.

The details of the source and target server(s) for the Business System to be migrated in the below tables.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Migration Order | Source Server | Target Server | Source IP Address | Target IP Address |
| 1 | Server1 | Server1 | 10.23.43.1 | TBD |
| 2 | Server2 | Server2 | 10.23.43.2 | TBD |
| 3 | Server3 | Server3 | 10.23.43.3 | TBD |
| 4 | Server4 | Server4 | 10.23.43.4 | TBD |

* 1. Server Specifications – On Premises

This section describes the servers that will represent the business system in the source environment hosted on Windows Server operating systems.

Note: Ensure connectivity to a domain controller is available for the specified domain.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Source Server Name (FQDN) | Domain | OS Version | CPU | Memory | System Drive Storage | Data Disks Storage (Total) | VLAN Tagging |
| Server1 |  | Windows Server 2008 R2 Standard | 1 | 6 GB | 146 GB | 400 GB | 43 |
| Server2 |  | Windows Server 2008 R2 Standard | 2 | 24 GB | 920 GB | N/A | 43 |
| Server3 |  | Windows Server 2008 R2 Standard | 1 | 8 GB | 146 GB | 200 GB | 43 |
| Server4 |  | Windows Server 2008 R2 Standard | 1 | 4 GB | 66 GB | 600 GB | 43 |

* 1. Server Specifications – Azure IaaS

This section describes the target server specifications in this section for deployment of the Business System in Azure IaaS.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Target Server Name | Azure VM Size | Azure Resource Group | Azure Storage | Test Failover vNet | Target Azure vNet | Subnet |
| Server1 | A2 | AZRes1 | azeasast001 | AZ-Test1 | AZ-EA-VN-001 | sn1 |
| Server2 | A5 | AZRes1 | azeasast002 | AZ-Test1 | AZ-EA-VN-001 | sn1 |
| Server3 | D1 | AZRes1 | azeasast003 | AZ-Test1 | AZ-EA-VN-001 | sn1 |
| Server4 | D4 | AZRes1 | azeasast004 | AZ-Test1 | AZ-EA-VN-001 | sn1 |

* 1. Additional Storage Specifications

Include the target storage specifications in this section for deployment of the Business System. Additional goal here to define the recommended storage allocation from SAN storage based upon current consumption and application owner interviews.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Source Storage | Target Storage | Storage Replication | Storage Region | Storage Account Name |
| Disk | Standard | Local | TBD | Filestorage1 |

* 1. Additional Network Specifications

Include the advanced networking specifications in this section for deployment of the Business System such as load-balancers or external port forwarding.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Server Name | # of NICs | NIC Teaming? | Network Load Balanced? How? | Public IP Needed? |  |
| Server1 | 1 | No | No | No |  |
| Server2 | 2 | No | No | No |  |

* 1. Firewall or NSG rule details

Include any firewall changes needed or any Network Security Groups needed

Is the server IP address part of any existing firewall rules?

Is the server is running in a DMZ?

|  |  |  |  |
| --- | --- | --- | --- |
| Firewall | Access | Port | Other |
|  |  |  |  |
|  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| NSG Name | Priority | Access | Source IP | Source port | Destination IP | Destination port | Protocol |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |

* 1. DNS Updates

List any DNS changes that need to be made

|  |  |  |  |
| --- | --- | --- | --- |
| Server Name | DNS Suffix/A-Record | CNAME | IP Address |
|  |  |  |  |
|  |  |  |  |

* 1. Backup

Describe how server backups may change once running in Azure IaaS

|  |  |  |  |
| --- | --- | --- | --- |
| Server Name | Current backup solution | Use Azure Backup? | If no, what backup solution to use |
|  |  |  |  |
|  |  |  |  |

* 1. Disaster Recovery

Describe how BCDR may change may change once running in Azure IaaS

|  |  |  |
| --- | --- | --- |
| Server Name | Current BCDR Protection | Planned BCDR Protection |
|  |  |  |
|  |  |  |

* 1. Monitoring Changes

Describe how server monitoring may change may change once running in Azure IaaS

|  |  |  |
| --- | --- | --- |
| Server Name | Current Monitoring Solution | Planned Monitoring Solution |
|  |  |  |
|  |  |  |

* 1. Other Requirements

Describe any other requirements needed

Is the server part of a cluster? Is there any guest level clustering?

Is the server using any shared disks or shared disk guest clusters?

Is there a dependency on Windows Server Failover Clustering?

* 1. Migration Risks

Describe any migration risks. Samples:

|  |  |  |
| --- | --- | --- |
| Risk | Severity | Mitigation Plan |
| Timely execution of DNS request | High | Migration team will verify if DNS A-record request has been closed during T- activities. If the CNAME change doesn’t happen in timely manner, Rollback steps will be performed to bring the On-Premise source server online. |
| Timely execution of Firewall request | Medium | Migration team will verify if Firewall request has been closed during T- activities |
| Network Latency | High | Upgrade the S2S link to Express route with high bandwidth. |
| IIS, Application and Database Functionality after hostname change | Medium | Migration team will fix the platform issue (if any) and will handover to application owner  for further troubleshooting. |

1. Migration Process

Use this section to describe how the migration will be conducted. Include the preparatory activities as well as the migration stages necessary to complete the migration process.

The migration process is essential in minimizing migration-related downtime and the impact of migration on its users by maintaining data integrity and availability during the migration process. The purpose of this Migration Process is to document the strategies and plans necessary to meet <<Insert Customer Name in Doc Properties>>’s migration objectives.

This section describes how the migration will be conducted which includes the preparatory activities as well as the migration stages necessary to complete the migration process.

* 1. Migration Resources

Use this section to identify the staffing that will be needed to complete the deployment and the sources of the personnel (internal staff, contractors and so on).

|  |  |  |  |
| --- | --- | --- | --- |
| Server Name | Customer Lead | Migration Consultant | QA Consultant |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

* 1. Migration Schedule

Use this section to identify the deployment’s critical dates and anticipated schedule. This information should be granular as appropriate for the project.

This sections includes critical dates for Business System migration and anticipated schedule.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Server | Replication Start Date | Test Failover Date | UAT End Date | Cutover Planned Date |
| Server1 |  |  |  |  |
| Server2 |  |  |  |  |
| Server3 |  |  |  |  |
| Server4 |  |  |  |  |

* 1. Communication Planning

Use this section to identify the staffing that will be needed to complete the deployment and the sources of the personnel (internal staff, contractors and so on).

|  |  |  |  |
| --- | --- | --- | --- |
| Change Controls Needed? | Change Control Owner | Change Window | Change Approved and Communicated? |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

* 1. Process Overview

**Edit** this section as needed for any specific customer needs.

|  |  |  |
| --- | --- | --- |
| **Phase** | **Activity** | **Current Task Name** |
| Entry Criteria for Migration | Migration Readiness | Customer signed-off Deployment Plan Jump Box is available in the test failover VNet Firewall between the source network and Azure VNet has been configured for ports required for the Business System |
| Entry Criteria for Migration | Migration Change Management | Server submission process Notification tasks (start, cutover, complete) |
| Pre-Migration T-Minus | Pre-Migration T-Minus | Review Deployment Plan to understand the Business System Connect to customer environment over VPN Login to source server Validate T-Minus checklist Document the components of the Business System (note down server/app/db settings, take screenshots) Raise any issues/clarifications that require inputs from the customer's app teams Report any migration blockers Update Deployment Plan |
| Pre-Migration | Pre-Migration | App integration / dependency info check Remove / Merge Snapshots .Net Installation (if needed)  Agent install Network / connectivity info (static vs. DHCP, etc.) Disk(s) check VM Dependency (Business Svc) check Destination check (storage & network) |
| Pre-Migration | Processing Time | Initiate transfer (Protect Source Server) |
| Pre-Migration | Data Transfer | Monitor & troubleshoot data transfers Verify sync complete |
| Pre-Migration | Test Failover | Perform Test Failover of the Protected VM |
| Pre-Migration | Test Failover Validation | Login to Test VM and execute validation checklist  Key Tasks Performed:   * Log on to Jump Boxes in test VNetLog on to failover VM * Validate server-level checks between source server and VM * Update Pre-Migration results in the Deployment Plan runbook |
| Pre-Migration | Test Failover Env Cleanup | Cleanup the test failover environment and document the results |
| Migration | Source Server Migration Readiness | Prepare Source Server for Migration (Disable App-related Services, Disable database services, Shutdown source server) |
| Migration | ASR Sync | Validate ASR Sync for the Source Server changes |
| Migration | Server Failover | Perform Server Failover |
| Post Migration | Post Migration Activities | Verify RDP access Verify network connectivity (ping, ipconfig, DNS) Server / VM config check Verify storage / all disks present and connected Verify Application Launch Integration tools check (if applicable) Old VM turned off / removed Reporting updates |
| Post Migration | App-Level Activities (if applicable) | Perform Post-Migration App-Level Activities Key Tasks Performed:   * Application Launch Test * Validate app - High-Level Smoke test (not app functionality testing) * Troubleshoot and resolve issues |
| Post Migration | Customer Testing | Handover Server to customer for app team to perform any Post-Migration activities Typical tasks include: Configure/reinstall management agents |
| Post Migration | Customer UAT | Validate application behavior and provide signoff |
| Post Migration | UAT Support | Maintain and verify sync Obtain sign-off from server owner Initiate final cutover Old VM turned off / removed Reporting updates |
| Post Migration | Remediation & Support |  |
| Post Migration | Cutover | MS and Customer jointly decides whether to cutover the server or rollback to source server |
| Post Migration | Rollback | If determined, rollback server to source environment |

* 1. Source Server Validation and Preparation

Complete this table for EACH SERVER in the business system

|  |  |  |  |
| --- | --- | --- | --- |
| DAY | T- ACTIVITIES | Completed  (Yes/ No/ NA) | Remarks/ Comments |
| T-5 | Check target environment availability |  |  |
| T-5 | Check if the application is part of Business System and can be migrated |  |  |
| T-5 | Validate the completed Deployment Plan with IVT |  |  |
| T-4 | Check application credential store and access |  |  |
| T-4 | Update Risk Assessment register |  |  |
| T-4 | Verify the roll back and disaster recovery plan |  |  |
| T-3 | Check multiple server dependencies |  |  |
| T-3 | Get the operating system source for role/feature additions |  |  |
| T-3 | Gather and store latest app binaries, install manuals, app license, post migration documents/scripts |  |  |
| T-3 | Identify the Role/Feature prerequisites and dependencies |  |  |
| T-3 | Infrastructure readiness for migration and perform pre-migration checks. |  |  |
| T-3 | Identify the app prerequisites and dependencies |  |  |
| T-2 | Gather prerequisites and dependencies |  |  |
| T-2 | Check port 7000 access - Data Migration scenarios |  |  |
| T-1 | Confirm server backup |  |  |
| T-1 | Confirm application/data backup |  |  |
| T-1 | Sign-off on GO/NO-GO decision |  |  |

* 1. Migration Order and Dependencies

List the migration order of the servers in the business system and any other dependencies needed before a migration can occur.

|  |  |  |
| --- | --- | --- |
| Migration Order | Server Name | Other Dependencies |
|  |  |  |
|  |  |  |

* 1. Pre-Migration

This table contains common pre-migration tasks. **Edit** this table with any additional pre-migration tasks that is required for this business system.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Migration Steps | Task Owner | Status |
| 1 | Complete all T-minus activities in source machine(VM) | Microsoft |  |
| 2 | Perform Pre - Migration tasks in source machines (VM) | Microsoft |
| 3 | Create Replication Policy on Azure ASR Vault with predefines RTO/RPO. | Microsoft |  |
| 4 | Enable replication on source machines (VM) | Microsoft |  |
| 5 | Complete initial replication and monitor the replication status. | Microsoft |  |
| 6 | Ensure VM is replicated on the Azure portal | Microsoft |  |
| 7 | Set replicated machine properties | Microsoft |  |
| 8 | Create a recovery plan for the protected machines (VM’s) | Microsoft |  |
| 9 | Initiate test failover on replicated machines (VM) | Microsoft |  |
| 10 | Validate test failover machines are configured as per the source machines (VM) | Microsoft |  |
| 11 | GO/NO-GO decision for failover | Microsoft |  |

* 1. Migration

This table contains common migration tasks. **Edit** this table with any additional pre-migration tasks that is required for this business system.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Migration Steps | Task Owner | Status |
| 1 | Receive Cutover process downtime schedule | Microsoft |  |
| 2 | Initiate failover of the replicated machines (VM) | Microsoft |  |
| 3 | Validate failover of replicated machines (VM’s) | Microsoft |  |
| 4 | Perform cutover (Network) activities | Microsoft |  |
| 5 | Perform Post – Migration Tasks (Change hostname and perform Final Validation) | Microsoft |  |
| 6 | Verify the external application and infrastructure service dependencies functionality | Application Owner |  |
| 7 | Document Post – Migration tasks as applicable | Microsoft |  |
| 8 | Submit the target server for UAT | Microsoft |  |
| 9 | Receive UAT approval | Microsoft |  |
| 10 | Reconfigure management agents and remove ASR agents | Microsoft |  |

* 1. Post – Migration Validation

This table contains common post-migration tasks. **Edit** this table with any additional pre-migration tasks that is required for this business system.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Migration Steps | Task Owner | Status |
| 1 | Verify Server Power On and visible in portal | Microsoft |  |
| 2 | Verify remote connectivity to server (RDP/SSH) enabled | Microsoft |  |
| 3 | Login to server (if credentials were provided) | Microsoft |  |
| 4 | Check that incoming traffic to old environment has faded away down to zero. | Customer |  |
| 5 | Check with operations team if servers are communicating with management servers. | Customer |  |
| 6 | Check with operations team if servers are communicating with backup servers. | Customer |  |
| 7 | Uninstall mobility agent (if desired) | Microsoft |  |
| 8 | Remove any temporary credentials | Customer |  |

* 1. User Acceptance Testing

User Acceptance Testing (UAT) will be performed by <<Insert Customer Name in Doc Properties>> *after* the Test Failover and *before* the Planned cutover during the Migration Window. It is responsibility of the Application owner to perform all application-related testing of the workload in Azure, including any data verification needed. The Application owner can reach out to Microsoft team if they have any questions during UAT.

* 1. Sign-Off

Describe the sign off criteria and process. Include the specific acceptance criteria and who must be involved in the sign off process.

|  |  |  |  |
| --- | --- | --- | --- |
| Business System Name | UAT Completed Date | Application Owner | Sign-Off Provided? |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

* 1. Roll Back Plan

Describe how, if problems do occur, a customer can roll back to the prior configuration.

In the event a major issue is encountered during a migration or an issue with an item that subsequent items in the migration will be dependent on, Microsoft will shut down the VMs on Azure and then on-premises virtual machines will be powered on.

In general, the rollback plan would be to turn off the target machines (VM’s) and start using the old server. There are no changes done on the old servers and all the applications and its configurations would be preserved.

In case of a rollback, it has been agreed that the customer’s infrastructure team will revoke the DNS Change Request via the agreed migration interface.

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Roll back Steps | Task Owner | Status |
| 1 | GO/NO-GO decision for Roll back | Application Owner/Microsoft |  |
| 2 | Revoke CNAME change request via agreed migration interface | Customer |  |
| 3 | Shutdown the VM/Services on Azure | Microsoft |  |
| 4 | Start Services on On-Premise source server | Microsoft |  |
| 5 | Perform source server validation and smoke test | Application Owner |  |
| 6 | Receive smoke test approval | Microsoft |  |

* 1. Decommissioning of Replaced Resources

Describe how existing resources will be taken offline. This should include criteria that will determine when and how those resources will be decommissioned. Note the customer owns decommissioning activities.

This section describes how existing resources will be taken offline.

|  |  |  |  |
| --- | --- | --- | --- |
| Server Name | Decommission Date | Decommission Action | Approvers |
| Server1 |  |  |  |
| Server2 |  |  |  |
| Server3 |  |  |  |
| Server4 |  |  |  |

1. Post-Migration Support and Stabilization

This section describes the activities during migration phase. Any problems with the application is expected to be brought to attention of the migration team.

Post-migration support ends whether either <<Insert Customer Name in Doc Properties>> provides a sign-off or 10 days has elapsed from the cutover of the workload into Azure IaaS.

* 1. Responsibilities

The following table lists the support roles for the migration process and the primary contacts for each role.

|  |  |  |
| --- | --- | --- |
| **Support Role** | **Description** | **Responsibility** |
| Project Manager | Responsible for raising and overseeing Changes, and reporting back to the organization on implementation outcomes. | <<Insert Customer Name in Doc Properties>> |
| Cloud Hosting Team | Responsible for coordinating support activities for technical issues that occur with the underlying infrastructure, such as Azure storage, Azure networking etc. | <<Insert Customer Name in Doc Properties>> |
| Application Support Lead | Responsible for coordinating support activities for technical issues that occur with business systems/applications that experience issues because of migration activities. | <<Insert Customer Name in Doc Properties>> |
| SPOC for Reconfiguration | Responsible for reconfiguring the end clients with new configuration after migration | <<Insert Customer Name in Doc Properties>> |
| Migration Lead (Onsite) | Responsible for coordinating support activities for technical issues that occur post migration process. | Microsoft |
| Migration Lead (Offshore) | Responsible for coordinating support activities for technical issues that occur post the migration process. | Microsoft |