What is IaaS Application Migration

Application migration is the process of moving an application program or set of applications from one environment to another. This includes migration from an on-premises enterprise server to a cloud provider's environment or from one cloud environment to another. In this example, Infrastructure as a Service (IaaS) application migration.

It is important to consider some migration principles to guide your application migration that will allow to complete your transition successfully. At the same time, having too many principles can impact the overall delivery of the transition. Having a right balance is important. Hopefully, the below example principles will help to structure and customise your organisation's application migration principles.

Application Migration Principles

Principle #1
Applications are migrated per environment (Dev, Test, UAT, Production) and per application.

Principle #2
IaaS programme team will work with application owners, infrastructure and application support teams to determine the agreed migration method.

Principle #3
IaaS programme team will complete a migration workbook outlining the changes to each server / application.

Principle #4
IaaS programme team will work proactively with Application owners, infrastructure and application Support teams to determine testing requirements and build test activities.

Server Migration Principles

Principle #1
Type 1: Azure Site Recovery (Lift and Shift Migration) ▪ Virtual servers are synchronised to Azure at a storage layer with Azure Site Recovery. ▪ Migration workbook completed outlining changes (e.g. IP Address). ▪ Server is 'failed over' to Azure. **Type 2: Rebuild** ▪ A new SOE server is deployed in Azure, the applications reinstalled and the configuration files and data migrated or resynchronised (if required).

Database Migration Principles

Principle #1

Type 1: Server Migration

- Where database is installed on same server as application – use Azure Site Recovery.

Type 2: Database Migration

- Where databases sit on a shared SQL server, build a new shared server and migrate the databases on a per-app basis.

Testing Principles

Principle #1

Testing will be based on impact analysis of changes made.

Principle #2

There will be four phases of testing.

- Pre migration baseline testing – Migration team
- Post migration testing – Migration team
- Vendor A readiness testing – Vendor A BAU teams
- Application testing – Application teams

Principle #3

<Tool A> Application Lifecycle Manager (Tool A) will be used for this project for

- Requirements
- Scenarios
- Scripts
- Defect management

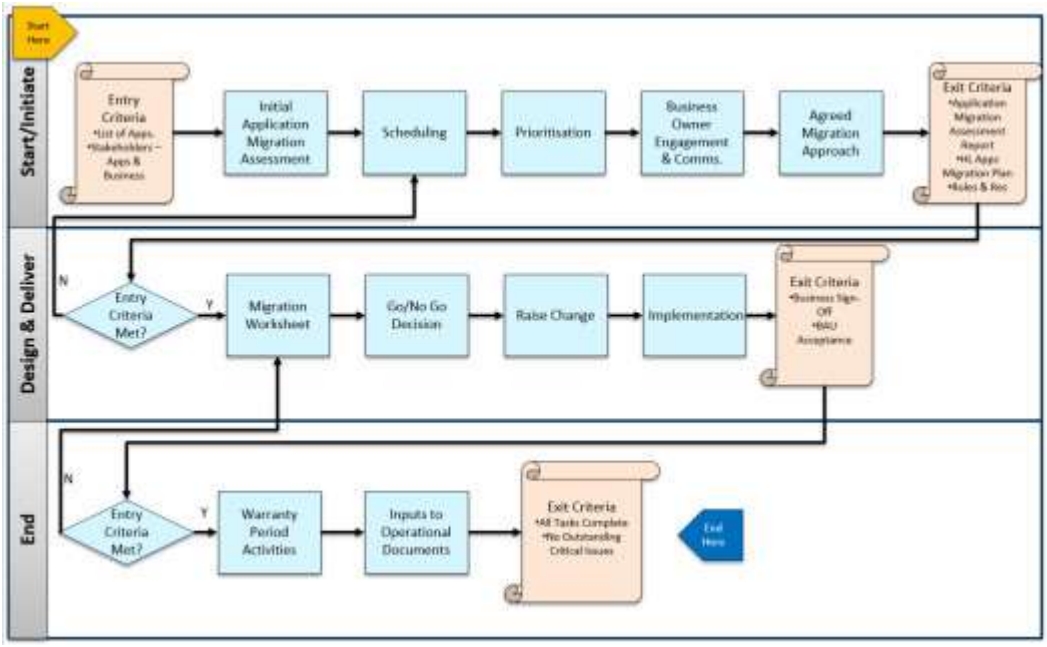
Principle #4

Testing model will follow the path of test requirement gathering, test planning & development, test implementation and signoff.

Application Migration Process

Note:
- IaaS project plan will have the details the owners who would perform the above tasks.
- Each application may have different migration approach based on technical analysis.

Application Migration Process – High Level Process Flow



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Application Migration Management Tracker

Having a visual IaaS application migration tracker, helps to clearly identify all dependencies and blockers to manage your end to end migration tracking. In addition to the project plan, this artefact will help to manage daily stand-ups and accurate weekly status reporting.

Benefits

- ✓ Clear visibility of current status
- ✓ Ownerships/accountability
- ✓ Assist escalation
- ✓ Clear overall status
- ✓ Lead time to CAB and preparation times
- ✓ Allows time to agree and test key firewall/network configurations
- ✓ Assist go/no-go decisions
- ✓ Cutover communications
- ✓ All dependencies
- ✓ Warranty period tracking
- ✓ BAU sign-off
- ✓ Decommission of old systems if required

When to use and why?

- ✓ Daily stand-ups
- ✓ Go-no go meetings to take clear next steps and accountability
- ✓ Risks and issues preparation and mitigation steps
- ✓ During change advisory board (CAB) meeting to provide accurate report to obtain approval to implement

- ✓ Traceability to tick and progress BAU activities and preparation of operational support activities

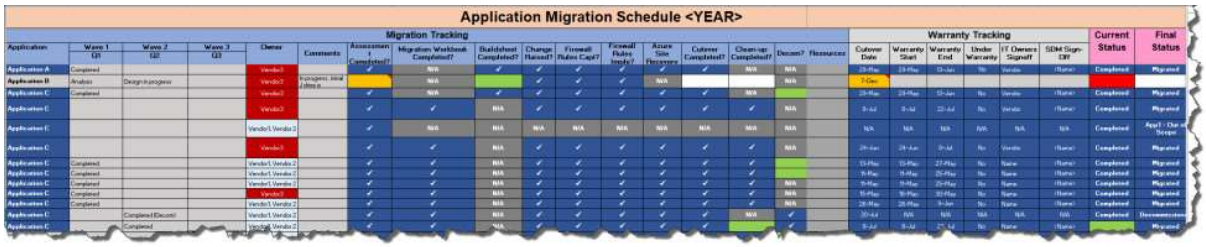
Application Migration Approach

Note:
- IaaS project plan will have the details the owners who would perform the above tasks.
- Each application may have different migration approach based on technical analysis.

Example of IaaS Application Migration Tracker

Below is an example which may assist your application migration tracking in detail.

- ✓ Application list
- ✓ Quarterly timelines
- ✓ Clear ownerships
- ✓ Migration tracking sub tasks
- ✓ Warranty tracking sub tasks
- ✓ Current status
- ✓ Final status



What is Governance and Escalation Model – IaaS Application Migration Project

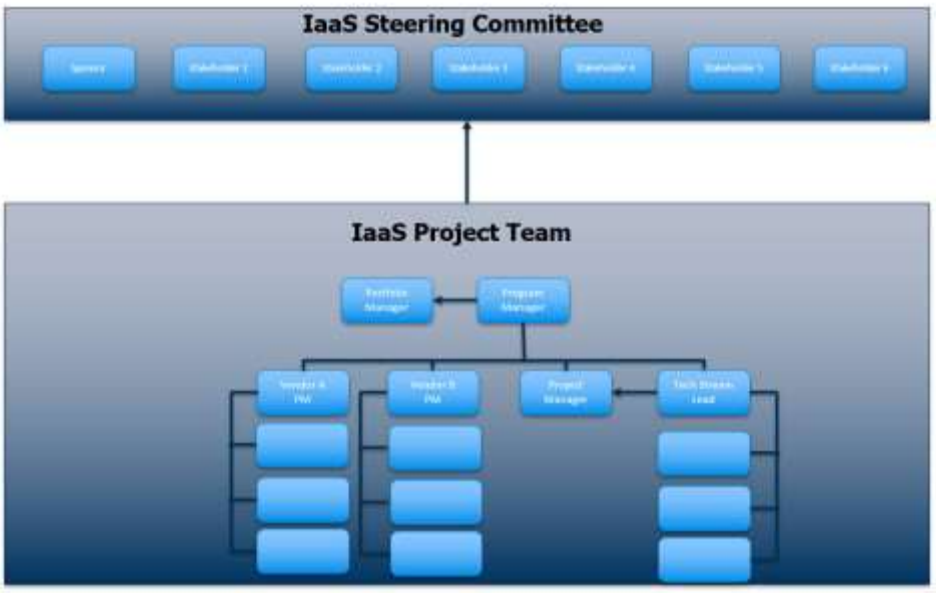
A **governance** model is the mechanism used by the project management to translate the elements of the governance framework and policies into practices, procedures, and job responsibilities within the boundary of the project. An **escalation** plan is a set of procedures set in place to deal with potential problems in a variety of contexts. Example: Project team need to reach out a key stakeholder in the program to make a decision of a go-live/roll-back.

Why Governance and Escalation Model is important

- ✓ To understand clear direction
- ✓ To make key decisions
- ✓ Clear roles and responsibilities
- ✓ Stakeholder visibility and assistance
- ✓ Escalation path is defined to assist
- ✓ Budget tracking
- ✓ To track the delivery of project

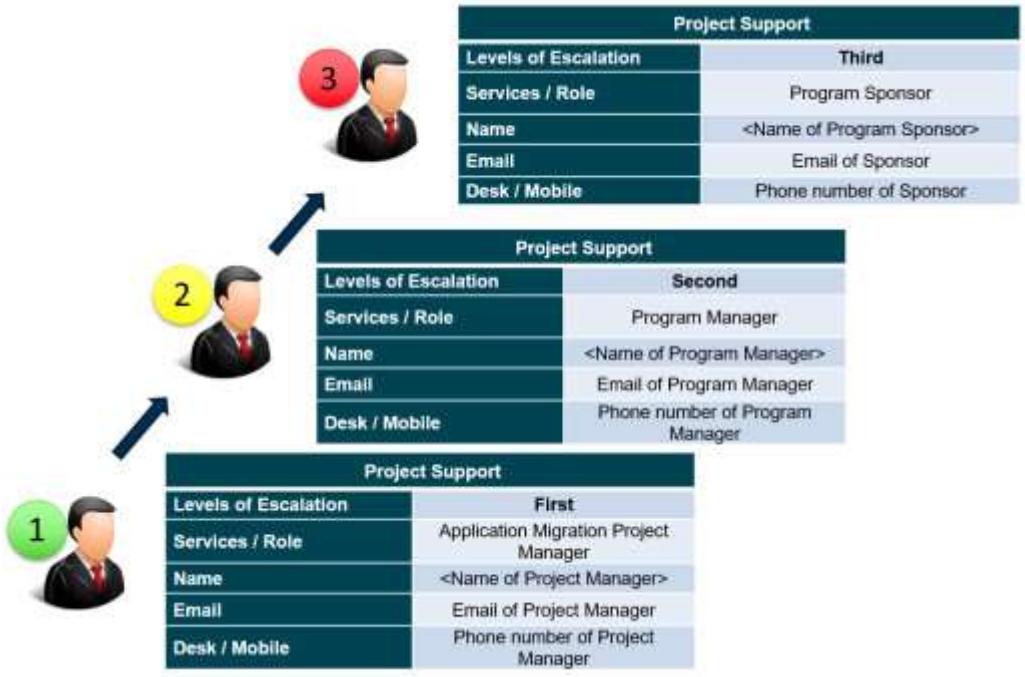
IaaS Application Migration Project Governance Model

Below is an example of a governance model.



Application Migration – Escalation Matrix

Below is an example of an escalation matrix, which is helpful to escalate from those 3 levels when required.



Project Support	
Levels of Escalation	Third
Services / Role	Program Sponsor
Name	<Name of Program Sponsor>
Email	Email of Sponsor
Desk / Mobile	Phone number of Sponsor

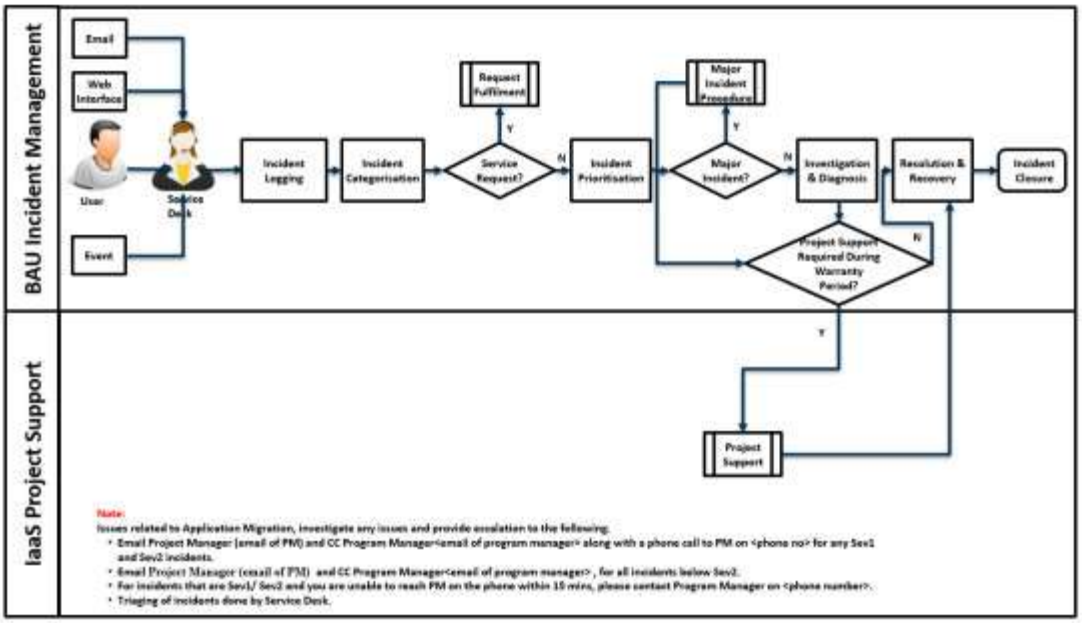
Project Support	
Levels of Escalation	Second
Services / Role	Program Manager
Name	<Name of Program Manager>
Email	Email of Program Manager
Desk / Mobile	Phone number of Program Manager

Project Support	
Levels of Escalation	First
Services / Role	Application Migration Project Manager
Name	<Name of Project Manager>
Email	Email of Project Manager
Desk / Mobile	Phone number of Project Manager

Application Migration – Incident Management Process

Typically, the IaaS project will use the existing incident management process but will provide project support assistance if required to resolve an incident related to new migration or roll-back. These activities occur during post go-live warranty periods or when an application is rolled back but caused an incident.

Incident Management Process



Application Migration – Telephone Conference Details

It is important to provide telco details to jump on conference calls. These are for technical and non-technical management and resolution activities.

Telephone Conference Details	
Telephone	<tp>
Host PIN	<pin>
Host Access Code	<access code>
Participant Access Code	<participant code>

- Project team will initiate the conference call in order to resolve an application migration issue.
- Project team will notify the required participants with telephone conference details.
- All required on-going communications as part of the issue / incident will be communicated by the project team.
- IaaS program manager / application migration project manager has the host PIN and host access code.
- A conference call will be initiated by the project team at 08:30am next day post cutover with SDM, IT owners, project and program managers. This will help to manage any issues proactively.

Warranty Period – Definition

- ✓ Provision of IaaS project resources to provide assistance to the BAU teams, in the event that incidents require support and or resolution for an agreed period of time. By definition BAU teams can constitute application teams, vendor A and vendor B infrastructure teams.
- ✓ A warranty entails an obligation to eliminate any defects in the operation of a product directly related to production workloads and as a result of project activity. During the warranty period the project must fix all defects within the agreed time limit, provided that the following conditions are met:
    - evidence of system issue(s) is given;
    - agreement that the issue occurred due to a project activity;
    - no unwarranted interference with the migrated application;
    - application feature is covered in the requirements.

Application Migration – Warranty Support Activities

Typical warranty period activities can be,

- ✓ Warranty support from project will be provided at least minimum of 14 days of application being successfully migrated or the period agreed by steering committee / IT owners.
- ✓ Project team will update Service Desk with newly migrated application details prior and post application being migrated.
- ✓ Project team will be available from 8am post migration day, to provide support if required, including to participate in warranty meetings.
- ✓ Project team will assist to resolve migration related incidents during the agreed warranty period.
- ✓ Project incident queue will be created via <TOOL> to direct required project support to incidents. These incidents will be clearly tagged by BAU team to separate from other BAU incidents to assist IT scorecard.

- ✓ TOOL group needs to be monitored after a cutover during warranty period.
- ✓ Existing incident management and major incident management process will be followed, project team will be notified by BAU team to participate if required.
- ✓ A change freeze period is agreed before and after migration with application owners.
- ✓ If significant changes are expected to resolve an incident due to project activity, the effort/Charges will be absorbed by the project team.
- ✓ If required, project team will participate in the Daily Operational Forum.
- ✓ Go/No Go – at agreed point of no return after successful cutover and during warranty period, rollback/fix forward will be performed if pending issues. Final decision maker will be the sponsor, while the contributors are Project, Service Delivery Team and IT owners.

Meeting	Purpose	Frequency	Attendees
Daily Operational Review Meeting @<time> (TP: <tp> ID: <id>)	• SLA and quality management • Sev1, Sev2 Incident details &resolutions • Problem resolutions • Change breaches (if required)	Daily	• Organisations Team Members/SME • Vendor Team Members/SME • IaaS Migration Team – Related to applications migrated and during warranty period.

Go/No Go – Decision 2 (During Warranty Period) – Criteria for Consideration – Rollback/Fix Forward

Rollback ?	Fix Forward ?
• Unresolved issues impacting service availability. • Continuous service impacting incidents as a result of application migration.	• All required testing is completed • No outstanding service impacting incidents/defects. • The application is working to the satisfaction of the business, users and accepted. • On-going incidents and impacts are at the acceptable level.

Exit Criteria – Warranty Period

Example of exit criteria's when we exist warranty,

- ✓ All critical issues have been resolved.
- ✓ All project related incidents have been updated/resolved.
- ✓ All necessary and required knowledge and documentation have been updated.
- ✓ Evidence of testing details available from testing tool.
- ✓ IT Owners sign-off obtained.
- ✓ BAU acceptance obtained for migrated applications from organisation's SDM