How to Prepare a Successful Data Migration Plan

By

George B. Scott
AND Solutions Group, Inc
george_scott@ANDsg.com
Basic Plan Contents

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Environmental Guidelines

- Tool Selection (Package and Version)
- Documentation Control
  - Versioning, Standard Formats
  - Depositories
  - Access
- Software Version Control
Who’s Involved

- Project Sponsor Role
- Steering Committee
- Project Stakeholders
- Corporate Gatekeepers
- PM
- Project Coordinator(s)
- Project Team
- Subject Matter Experts
Getting Started

- Build the Plan
- Consider Environment & Controls
- Consider People
Basic Plan -- Scope

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Scoping Steps

- Develop a Project Outline
- Define Schedule Constraints
- Define Budget Constraints
- Define Staffing Requirements
- Other Constraints and Assumptions
- Prepare a Project Charter
- Prepare a Preliminary Plan
Scope Review & Approval

- Review Project Charter with Sponsor and Stakeholders. Get written approval from all.

- Prepare Preliminary Plan with deliverables. Review with Sponsor and Stakeholders. Obtain documented approval.
Basic Plan – Planning

- Define Scope and Objectives
- **Develop Initial Plan and Cost Summary**
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
The Planning Phase

- Define Requirements. Obtain Signoff.
- Define Environments for Design, Development, Testing, Training & Transition.
- Confirm Toolsets.
The Project Schedule

- WBS should conform to PMI type standards.
- Detail and Summary Tasks
- Milestone Tasks (Approvals, etc)
- Durations, Work Estimates (Hours)
- Resource Skills – Loaded Labor
- Contingency Planning
Basic Plan -- Design

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Detail Internal Design Phase

- Perform Internal Design. Build Test Cases.
- Prepare Development Environment
- Walkthrough Internal Design with SME’s and System Gatekeepers
- Revise Plan. Review with Sponsor.
- Review any cost or schedule changes with Stakeholders.
Internal Design

- Extract Processes
- Data Transformation Processes
- Data Clean-up Processes
- Data Load Processes
- Indexing Considerations during load
- Auditing & Certification design
- Re-start and Recovery design
Extract Process Design

- Sources (DB, Table(s), Fields)
- Extraction Criteria/Filtering
- Extract Record(s) layout
- Extract Field Type/Sizes
- Extract Tools
- Extract Transformation (Pro’s/Con’s)
- Extract Audits, Error Handling
Data Transformation Processes

- Source (System, DB, Table, Field Type, Size, Nulls allowed, Required Field)
- Destination (System, DB, Table, Field Type, Size, Nulls allowed, Required Field)
- Default Values
- Sample Value
- Referential Integrity Rules
- Field Transformation Rules, Assumptions, Comments
Data Clean-up Design

- Addresses
  - US
  - Foreign
- Phone Numbers
- Email Addresses
- Codes (Obsolete, Non-conforming)
- Missing Required Data
- Duplicate Records from Multiple Sources Source vs. load process vs. Destination
Data Load Design

- Load Times
- Load Precedence (Referential Integrity)
- Pre-Load (V. Large Data Stores)
- Special Indexing for Loading Only
- Special Pre-Load Tables
- Configuration Management Issues
- Freezing Certified Data
DB Indexing Design

- Load Times vs. Indexing
- Removal of non-needed during load
- Addition of special for loading only
Audit & Certification Design

- Date/Time/ID stamp from Extract Record to Record inside Loaded DB
- ID Audit Trail of all files/stores from source to destination DB table
- Configuration Management of all extract, transformation and load routings, work files & new master tables
- Record counts, Reject counts, Run times
Re-start & Recovery Design

- Hardware Failure Issues
- Communication Failure Issues
  - Record Counts
  - Byte Check Values
- DB Configuration Issues (Table space, sort space, temporary space)
- Software Aborts
Basic Plan --Development

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Development Steps

- Perform Software Development.
- Perform Unit Test.
- May include Acquisition and Installation of Software.
- Prepare Integrated and System Test Environment.
- Revise Plan. Review with Sponsor & Stakeholders.
Basic Plan -- Testing

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Testing Phase

- Conduct Integrated Testing.
- Correct Deficiencies if found & Repeat.
- Conduct System Testing.
- Correct Deficiencies if found & Repeat.
- Obtain Approval to Proceed.
Basic Plan -- Transition

- Define Scope and Objectives
- Develop Initial Plan and Cost Summary
- Design Phase
- Development Phase
- Test Phase
- Transition to New System
Transition

- Check Out Environments
- Training
- User Release for Transition (written)
- Conduct Data Migration
- Certify Migration
- Obtain Transition Approval (written)
Summary

5% Define Scope & Objectives
20% Plan
15% Design
25% Develop
20% Test
15% Transition
Comment

Approximately 80% of the PM’s effort is spent in the first 25% of the project (Scope & Planning Phases).
Common Planning Errors

- Data Clean-up (25% of total)
- Configuration Management (5-10%)
- Error Handling, Rejected Records, Audit Capability
- Transition Dress Rehearsal Runs
- Communication and Environmental Set-up and Check-out
- Legal Requirements buried in data (FDA, EPA, DOT, OSHA, EEOC, IRS, etc)
- Test Environment Set-up (Resources) and Timing (When Needed)
Why Plan

- Proven that it works.
- Scalable
- Controls expectations
- Controls cost and schedule
- Maximizes Quality
- No surprises for your Customer
Keys to Success

- The Project Sponsor must have sufficient power to reject scope creep or schedule delays.
- The Project Sponsor must trust you. Be open and honest with the Project Sponsor at all time.
- Obtain guidance from someone who has managed a migration.
- As PM, don’t kid (a.k.a BS) yourself.
George B. Scott
AND Solutions Group, Inc.
1380 Lead Hill Blvd, Suite 106
Roseville, CA 95661
866-388-2640