



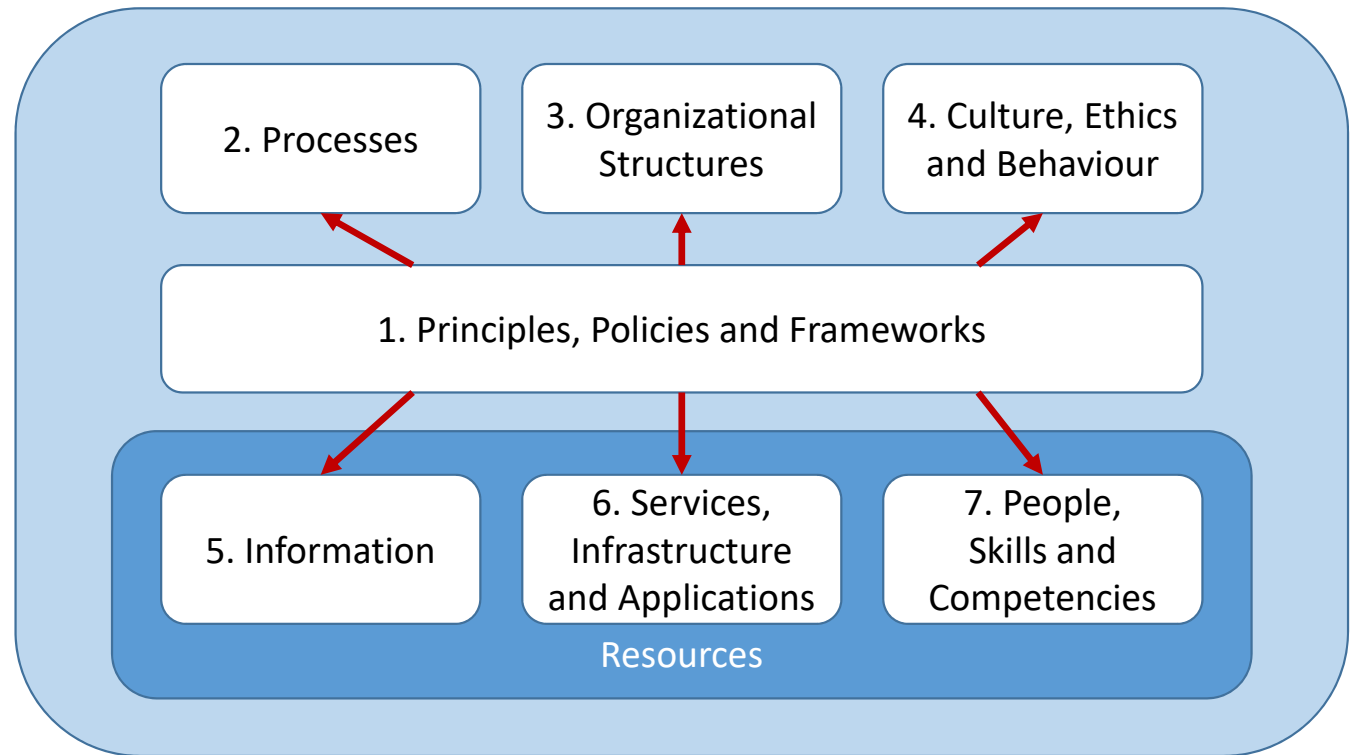
IT Audit Process

Prof. Mike Romeu

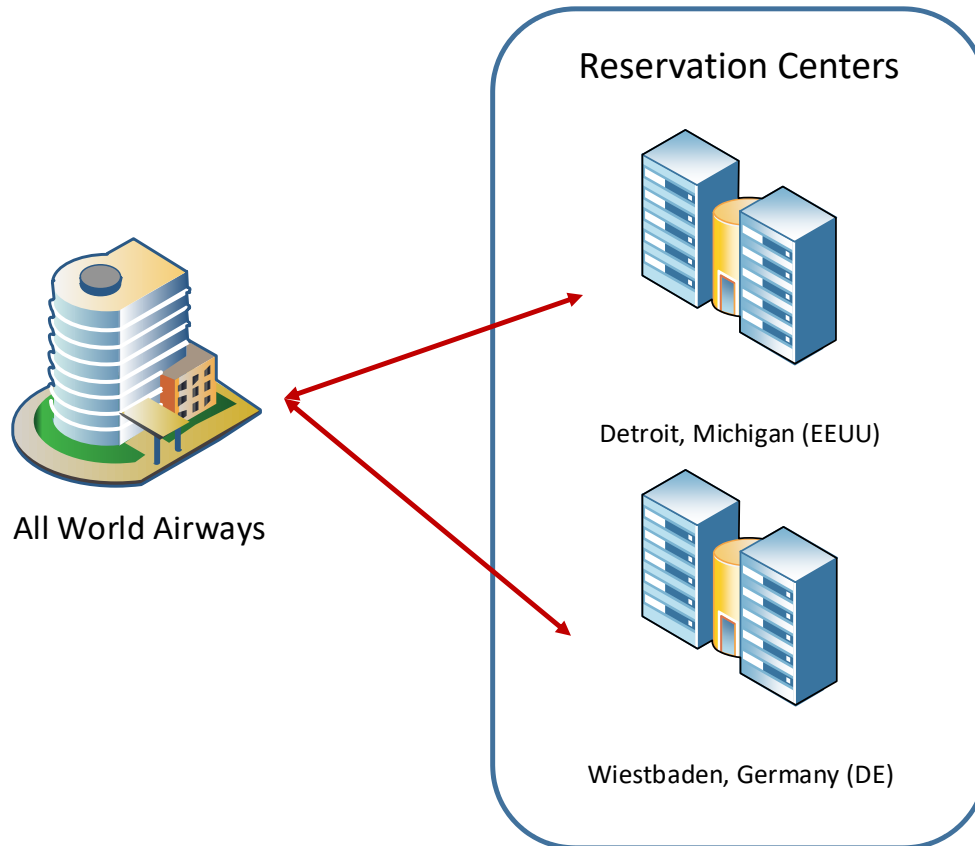
February 13, 2017

IT Assurance and COBIT® 5 - Enablers

Enablers are factors that, individually and collectively, influence whether something will work.



All World Airways (AWA) Company/Industry Profile



All World Airways

- International Airline
- Reservation Centers
 - ✓ EEUU
 - ✓ DE
- Losses posted 6 QTRs

Airline Industry

- Affected by
 - ✓ Economic Downturn
 - ✓ Oil Prices
 - ✓ Labor Disputes
 - ✓ Competition
- Outsourcing
 - ✓ Reservation Systems
 - ✓ Technical Services

All World Airways – General Outsourcing Strategies

Why Outsource?

- **Focus on Core Competencies or Initiatives**

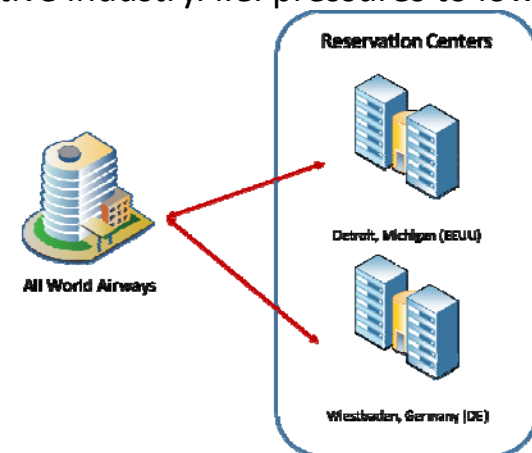
- AWA – Transportation
- Vendor – IT Operations, infrastructure management, software development and maintenance (India)

- **Pressure on profit margins and increasing competition**

- Profit Margin = Sales Price – Cost of Goods or Service
- AWA is facing both: pressure on profit margin and a highly competitive industry. i.e. pressures to lower costs

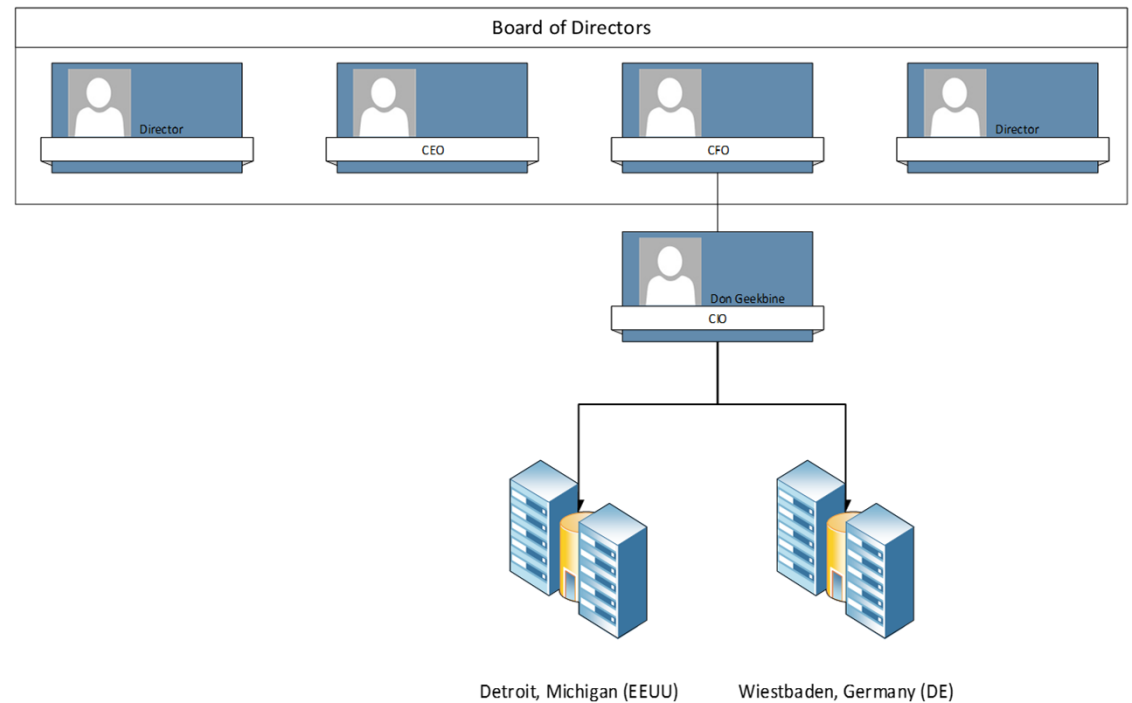
- **Organizational and Structural Flexibility**

- AWA Organizational: IT Footprint small or non-existent
- AWA Structural: Choice of Vendors at the right price.

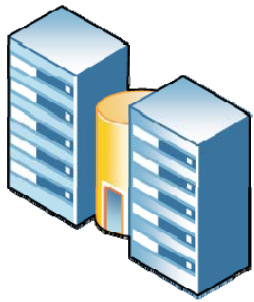


All World Airways – Organization

- In-house Staff
- No experience with Outsourcing
- No experience with Risk Assessments



All World Airways – IT Landscape



Reservations Center

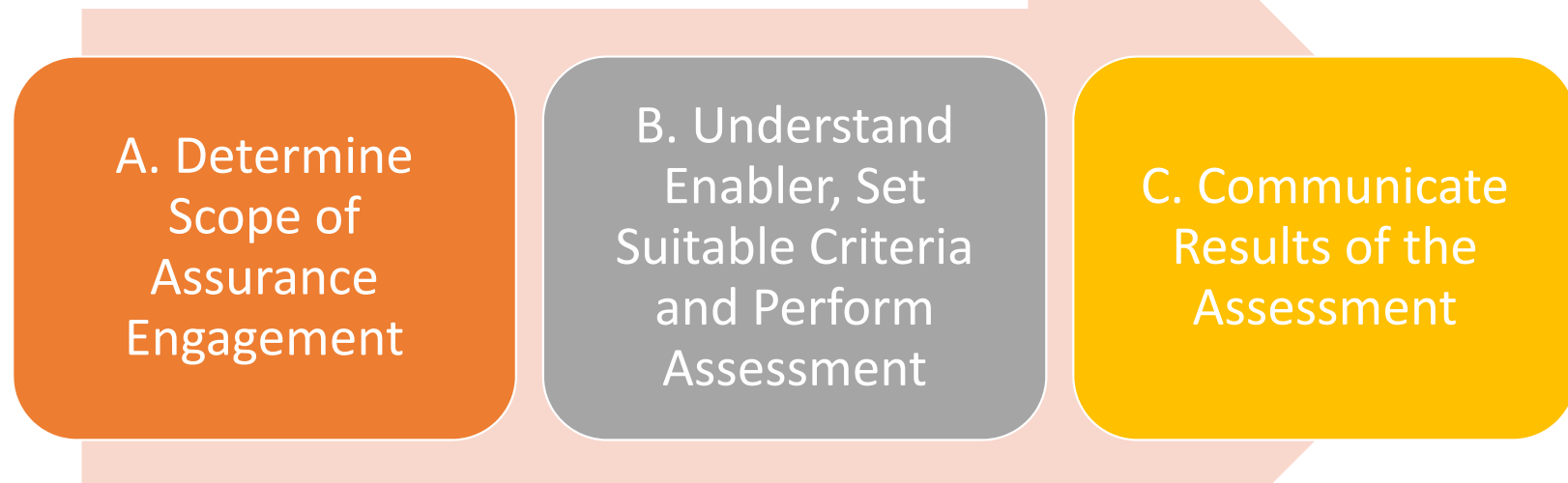
Hardware/Infrastructure: IBM Mainframes

Operating System: z/OS

Application Software:

- Airline Control Systems (ALCS)
- Maintenance
- Flight and Crew Scheduling
- Airfare Sensitivity Analysis
- Freight System

COBIT 5-Based Assurance Engagement Approach



Process for Governance of Enterprise IT

Evaluate, Direct and Monitor

EDM01 Ensure Governance Framework Setting and Maintenance

EDM02 Ensure Benefits Delivery

EDM03 Ensure Risk Optimisation

EDM04 Ensure Resource Optimisation

EDM05 Ensure Stakeholder Transparency

Align, Plan and Organize

AP001 Manage the IT management Framework

AP002 Manage Strategy

AP003 Manage Enterprise Architecture

AP004 Manage Innovation

AP005 Manage Innovation

AP006 Manage Budget and Costs

AP007 Manage Human Resources

AP008 Manage Relationships

AP009 Manage Service Agreements

AP010 Manage Suppliers

AP011 Manage Innovation

AP012 Manage Risk

AP013 Manage Security

Build, Acquire and Implement

BAI01 Manage Programmes and Projects

BAI02 Manage Requirements Definition

BAI03 Manage Solutions Identification and Build

BAI04 Manage Availability and Capacity

BAI05 Manage Organisational Change Enablement

BAI06 Manage Changes

BAI07 Manage Change Acceptance and Transitioning

BAI08 Manage Knowledge

BAI09 Manage Assets

BAI10 Manage Configurations

Deliver, Service and Support

DSS01 Manage Operations

DSS02 Manage Service Requests and Incidents

DSS03 Manage Problems

DSS04 Manage Continuity

DSS05 Manage Security Services

DSS06 Manage Business Process Controls

Monitor, Evaluate and Assess

MEA01 Monitor, Evaluate and Assess Performance and Conformance

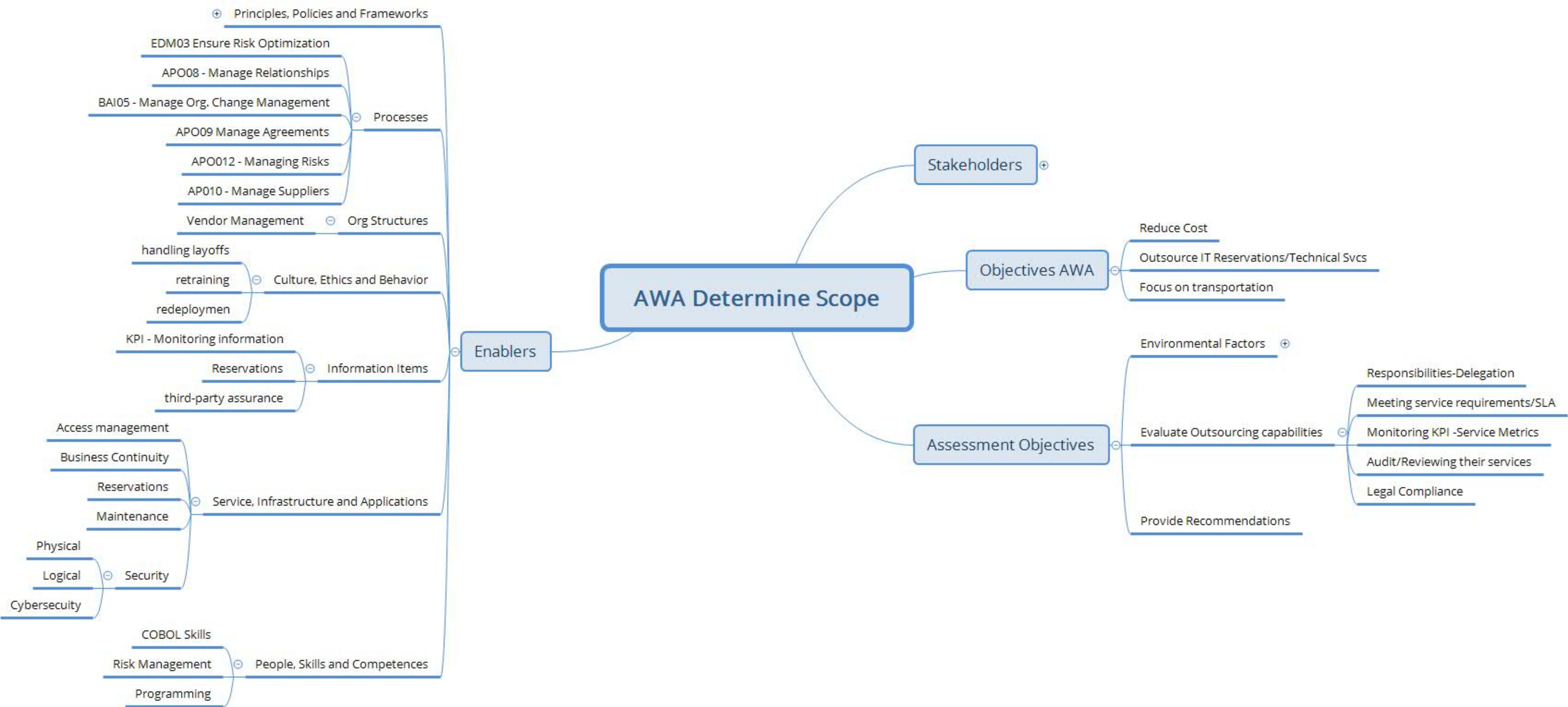
MEA02 Monitor, Evaluate and Assess the System of Internal Controls

MEA03 Monitor, Evaluate and Assess Compliance With External Requirements

Processes for Management of Enterprise IT

COBIT 5-Based Assurance Engagement Approach

- Who are the stakeholders?
- What are the stakeholders' stakes?
- What are the overall enterprise objectives?
- What are business requirements and associated risk and opportunities?
- What is the organizational structure?
- What are the roles and responsibilities?
- What are the governing policies and procedures?
- What are the applicable laws, regulations and contractual agreements?
- What management practices and associated activities are in place?
- What management reporting (status, performance, actions) is in place?
- What past issues have arisen and corrective actions have been taken?
- What are the current issues and concerns?
- What does management hope to obtain as a result of the assurance initiative?



AWA Determine Scope

Enablers

- Principles, Policies and Frameworks
- EDM03 Ensure Risk Optimization
- APO08 - Manage Relationships
- BAI05 - Manage Org. Change Management
- APO09 Manage Agreements
- APO12 - Managing Risks
- AP010 - Manage Suppliers
- Vendor Management
- handling layoffs
- retraining
- redeploymen
- KPI - Monitoring information
- Reservations
- third-party assurance
- Access management
- Business Continuity
- Reservations
- Maintenance
- Physical
- Logical
- Cybersecurity
- COBOL Skills
- Risk Management
- Programming

Stakeholders

Objectives AWA

- Reduce Cost
- Outsource IT Reservations/Technical Svcs
- Focus on transportation

Assessment Objectives

- Environmental Factors
- Evaluate Outsourcing capabilities
 - Responsibilities-Delegation
 - Meeting service requirements/SLA
 - Monitoring KPI -Service Metrics
 - Audit/Reviewing their services
 - Legal Compliance
- Provide Recommendations

AWA Outsourcing Strategy/Scope of Assurance Initiative

Determine Stakeholders

- CEO/CFO - Intended Users
 - Improve ROI
 - Remain Competitive
 - Legal compliance
- CIO - Accountable Party
 - Reduce IT Operational Costs
 - Legal compliance
 - Regulatory compliance
- Outsourced Operation
 - Additional Customers
 - Competitive landscape
- Other Vendors
 - New Customer
 - Competitive landscape
- Remote Employees
 - Loss of Jobs
- Regulators
 - Labor
 - Dept of Labor US
 - Dept of Labor DE
 - Aviation
 - Financial
 - PCI DSS
 - SOX

Determine Objectives

- Environmental factors
 - Internal
 - US Data Center
 - Germany Data Center
 - Home-grown Systems
 - COBOL Skills
 - External
 - Regulators
 - Other Vendors
 - Airline Industry outsourcing
 - Economic Downturn
 - Oil Prices
 - Labor disputes
 - Airline Industry Competition
- Strategic Objectives
 - Outsource IT Operations
 - Regulatory Compliance
 - Vendor Management

Determine Enablers

- Principles, Policies and Frameworks
- Processes
 - EDM03 - Ensure Risk Optimisation
 - APO12 - Manage Risk
 - APO09 - Manage Service Agreements
 - APO10 - Manage Suppliers
- Organisational Structures
 - Eliminate Data Centers
 - Create Retained Organization
- Culture, Ethics and Behavior
- Information Items
 - SLA
 - Contractual Indicators
 - Third-party assurance reports
- Services, Infrastructure and Applications
 - SLA
 - Security
 - Physical
 - Logical
 - Network
 - Business Continuity
- People Skills and Competencies
 - Risk Management
 - Vendor Management