BLOCKCHAIN PLAYBOOK:
DO I NEED A BLOCKCHAIN?

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Will the use case involve a business network, which spans multiple organizations/agencies?

Is there a current lack of trust among the business network participants and/or sources of data?

Is this a use case that can be more efficiently solved with other technologies (e.g. distributed database)?

For this use case, is there an existing system that could serve as a trusted source of the truth for all parties?
ACT-IAC Blockchain Working Group Playbook

Proposes a methodology to assess use cases and prepare organizations for blockchain-based systems

Explores key activities in 5 functional areas through 5 phases

First 3 phases described in the current version

501(c)3 non-profit educational organization established to improve government through the effective and innovative application of technology.
1. **ASSESSMENT**
   Determine if blockchain is the appropriate technology to solve my problem

2. **READINESS**
   Prepare the organization for the use case

3. **SELECTION**
   Enabling the organization to operationalize the use case

4. **IMPLEMENTATION**
   Implement the solution

5. **INTEGRATION**
   Integrate the solution
# Key Activities

<table>
<thead>
<tr>
<th>Management</th>
<th>People</th>
<th>Process</th>
<th>Technology</th>
<th>Acquisition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choose the use case for review to achieve mission goals</td>
<td>Identify potential stakeholders and collaborators</td>
<td>Know the use case and the value proposition</td>
<td>Understand the attributes and prepare for ATO</td>
<td>Determine the options</td>
</tr>
<tr>
<td>Define initial schedule, budget and governance</td>
<td>Identify the key end users and DLT network participants</td>
<td>Define scope</td>
<td>Assess readiness for risks related to nascent DLT technology, security and decentralization</td>
<td>Establish Consensus on DLT Governance Model and Baseline target KPIs</td>
</tr>
<tr>
<td>Reinforce schedule, governance and budget</td>
<td>Confirm DLT Participants, identify skill gaps</td>
<td>Validate scope</td>
<td>Test ConOps for target state, Develop Change Management Plan</td>
<td>Choose technology platform, Define business architecture, Define Operating model</td>
</tr>
</tbody>
</table>
Goal: Determine if blockchain is the appropriate technology to solve my problem

Inputs
- Blockchain
  - Primer. Basic understanding of Blockchain

- Business
  - Problem Statement
  - Use Case Ideas

- GRC
  - Awareness of:
    - Applicable NIST Guidance – FISMA, 800-53 (Security), 800-63 (Identity)
    - Agency specific compliance
    - Government-wide & agency-specific policies

ASSESSMENT

Key Activities
- Management
  - Choose the use case for review to achieve mission goals

- People
  - Identify potential stakeholders and collaborators

- Process
  - Know the use case and the value proposition

- Technology
  - Understand the attributes
  - Prepare for ATO

- Acquisition
  - Determine the options

Key Outcomes
- Engaged
  - Program/mission office executive and rank and file

- Defined
  - A blockchain solution is applicable. (Selection is not defined in this phase)

- Planned
  - The ROI permits MGT, procurement options exist.

Outputs
- Blockchain
  - Technical Vision
  - Non Functional Requirements

- Business
  - Valid Use Cases
  - Future State Vision
  - Stakeholder Analysis

- GRC
  - Guidance on:
    - Applicable government-wide and agency specific policy and compliance requirements.
Start Small

Look at business & blockchain capabilities

Build architectural blueprint for future phases

Look at the ROI and benefits to the entire network
Goal: Prepare the organization for the use case

**Inputs**
- Blockchain
  - Technical Vision
  - Non Functional Requirements
- Business
  - Valid Use Cases
  - Future State Vision
  - Stakeholder Analysis
- GRC
  - Guidance on: Applicable government-wide and agency specific policy and compliance requirements.

**Key Activities**
- **Management**
  - Define initial schedule, budget and governance
- **People**
  - Identify the key end users and DLT network participants
- **Process**
  - Define scope
  - Validate impact and develop target ConOps
- **Technology**
  - Assess readiness for risks related to nascent DLT technology, security and decentralization
- **Acquisition**
  - Establish Consensus on DLT Governance Model
  - Baseline target KPIs

**Key Outcomes**
- **Engaged**
  - Blockchain SMEs, PM, EA
  - Network Participants
  - Cross-Functional Team
- **Defined**
  - Governance Model
  - Key Performance Indicators
  - Business Capabilities
- **Planned**
  - Change Management
  - Mitigation for top blockchain risks

**Outputs**
- Blockchain
  - Enterprise Arch. Guidelines
  - KPI Baselines
- Business
  - Target State Concept of Operation
  - Scope
  - Procurement Plan
  - Validated AS-IS Process Maps
- GRC
  - Initial Cost & Schedule Estimates
  - Change Management Plan
  - Governance Model
  - Risk Management Plan
Standing up a blockchain governance office

Defining the scope of blockchain services and governance processes

Assessing risks and establishing risk mitigation strategies

Assessing existing systems’ integration readiness

Assessing selected key performance indicators
Goal: Enabling the organization to operationalize the use case

**Inputs**
- Blockchain
  - Enterprise Architecture Guidelines
  - KPI Baselines
- Business
  - Target State Concept of Operation
  - Scope
  - Procurement Plan
  - Validated AS-IS Process Maps
- GRC
  - Initial Cost & Schedule Estimates
  - Change Management Plan
  - Governance Model
  - Risk Management Plan

**Selection**

**Key Activities**
- Management
  - Reinforce schedule, governance and budget
- People
  - Confirm DLT Participants
  - Identify skill gaps
- Process
  - Validate scope
  - Test ConOps for target state
  - Develop Change Management Plan
- Technology
  - Choose technology platform
  - Define business architecture
  - Define Operating model
- Acquisition
  - Define Performance Metrics
  - Develop Acquisition model and milestones

**Key Outcomes**
- Engaged
  - Blockchain SME, Product & Business Owner
  - Contracts SME
  - Cross Functional Team
- Defined
  - Platform Architecture
  - Acquisition Model & milestones
  - Business Architecture
- Planned
  - Contract Negotiation
  - Solution Design
  - Operational Model Implementation

**Outputs**
- Blockchain
  - Conceptual Platform Architecture
  - Operational Model
  - DLT Network Basics
- Business
  - Business Architecture
  - Resource Plan
  - Acquisition Milestones
  - Success Criteria
- GRC
  - Revised Cost & schedule estimate
  - Acquisition Plan
  - Operational Model
<table>
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<tr>
<th>Business considerations</th>
<th>Governance</th>
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<tr>
<td></td>
<td>Mode of operation</td>
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<td>Transaction cost</td>
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<td>Technical considerations</td>
<td>Permissioned vs permissionless</td>
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<td>Digital asset and DLT requirements</td>
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<td></td>
<td>Deployment models</td>
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<tr>
<td>How to buy</td>
<td>Leverage commercial contracting methods</td>
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<tr>
<td></td>
<td>Buy small, build small, test, and iterate</td>
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<tr>
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<td>Do not lock technical requirements into the contract</td>
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Thank You

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ACT IAC BLOCKCHAIN PROJECT: https://www.actiac.org/blockchain-and-distributed-ledger-technology-project

PLAYBOOK (ONLINE): https://blockchain-working-group.github.io/blockchain-playbook/

ACT-IAC

The American Council for Technology-Industry Advisory Council (ACT-IAC) is a 501(c)3 non-profit educational organization established to improve government through the effective and innovative application of technology.

ACT-IAC provides an objective, trusted and ethical forum where government and industry executives can communicate, collaborate and learn.
Playbook Development Journey

120 working group members
88 playbook participants
46 government / academia
21 playbook active contributors
40 meetings