Process for New Discoveries Integration

Overview

The Process for New Discoveries is a systematic framework for identifying, documenting, and integrating new infrastructure services, configurations, or requirements into the HX Infrastructure ecosystem. This process ensures consistent documentation, proper integration, and knowledge transfer across the team.

Process Framework

Phase 1: Discovery

Objective: Identify and document new infrastructure elements

Activities:
1. **Initial Discovery**
- Document the new service/configuration/requirement
- Identify stakeholders and dependencies
- Assess impact on existing infrastructure

   1. **Documentation Creation**
      - Create discovery ticket using pre-filled template
      - Document technical specifications
      - Identify integration points

   2. **Stakeholder Notification**
      - Notify relevant team members
      - Schedule discovery review meeting
      - Assign "Finder" role responsibilities

Phase 2: Analysis

Objective: Analyze integration requirements and impacts

Activities:
1. **Technical Analysis**
- Review compatibility with existing systems
- Identify configuration requirements
- Assess security implications

   1. **Resource Planning**
      - Estimate implementation effort
      - Identify required resources
      - Plan deployment timeline

   2. **Risk Assessment**
      - Identify potential risks and mitigation strategies
      - Document rollback procedures
      - Plan testing approach

Phase 3: Integration Planning

Objective: Plan the integration into existing infrastructure

Activities:
1. **Architecture Integration**
- Update architecture diagrams
- Plan service relationships
- Design configuration templates

   1. **Documentation Planning**
      - Plan SOP updates
      - Identify training requirements
      - Design monitoring and alerting

   2. **Implementation Planning**
      - Create implementation roadmap
      - Plan testing procedures
      - Schedule deployment windows

Phase 4: Implementation

Objective: Implement and validate the new discovery

Activities:
1. **Configuration Implementation**
- Update Ansible configurations
- Create/update inventory entries
- Implement monitoring

   1. **Documentation Updates**
      - Update relevant SOPs
      - Create service-specific documentation
      - Update troubleshooting guides

   2. **Validation and Testing**
      - Perform integration testing
      - Validate monitoring and alerting
      - Conduct user acceptance testing

Integration with Service-Specific SOPs

Infrastructure Services SOP Integration

Discovery Triggers:
- New domain controller requirements
- Certificate authority changes
- Network infrastructure updates

Integration Points:
- Update domain controller playbooks
- Modify certificate management procedures
- Update network configuration templates

Pre-filled Ticket Template:

```
# Infrastructure Discovery: [Service Name]

## Discovery Details
- **Service Type**: [Domain Controller/Certificate Authority/Network]
- **Environment**: [Development/Staging/Production]
- **Discovered By**: [Name]
- **Discovery Date**: [Date]

## Technical Specifications
- **Server Requirements**: [CPU/Memory/Storage]
- **Network Requirements**: [IP/Ports/Protocols]
- **Dependencies**: [List dependent services]

## Integration Checklist
- [ ] Update domain controller inventory
- [ ] Configure certificate management
- [ ] Update network security rules
- [ ] Test service connectivity
- [ ] Update monitoring configuration
```

AI/ML Services SOP Integration

Discovery Triggers:

- New model requirements

- LLM service updates

- GPU resource changes

Integration Points:

- Update model deployment procedures

- Modify resource allocation templates

- Update performance monitoring

Pre-filled Ticket Template:

```
# AI/ML Discovery: [Service Name]

## Discovery Details
- **Service Type**: [LLM/Model Storage/Inference]
- **Model Requirements**: [Model type/size/resources]
- **Discovered By**: [Name]
- **Discovery Date**: [Date]

## Technical Specifications
- **GPU Requirements**: [Type/Memory/Count]
- **Model Storage**: [Size/Format/Location]
- **API Requirements**: [Endpoints/Authentication]

## Integration Checklist
- [ ] Update model inventory
- [ ] Configure GPU resources
- [ ] Update API gateway configuration
- [ ] Test model deployment
- [ ] Update performance monitoring
```

UI Services SOP Integration

Discovery Triggers:

- New interface requirements

- Load balancer changes
- User experience updates

Integration Points:
- Update web interface configurations
- Modify load balancing rules
- Update user authentication

Pre-filled Ticket Template:

```
# UI Discovery: [Service Name]

## Discovery Details
- **Service Type**: [Web Interface/Load Balancer/API]
- **User Impact**: [New features/Changes/Performance]
- **Discovered By**: [Name]
- **Discovery Date**: [Date]

## Technical Specifications
- **Interface Requirements**: [Framework/Dependencies]
- **Load Balancing**: [Rules/Health checks]
- **Authentication**: [Methods/Integration]

## Integration Checklist
- [ ] Update web interface configuration
- [ ] Configure load balancer rules
- [ ] Update authentication system
- [ ] Test user workflows
- [ ] Update monitoring dashboards
```

Operations Services SOP Integration

Discovery Triggers:
- Database schema changes
- Monitoring requirement updates
- Backup procedure modifications

Integration Points:
- Update database configurations
- Modify monitoring rules
- Update backup procedures

Pre-filled Ticket Template:

```
# Operations Discovery: [Service Name]

## Discovery Details
- **Service Type**: [Database/Monitoring/Backup/Cache]
- **Operational Impact**: [Performance/Availability/Security]
- **Discovered By**: [Name]
- **Discovery Date**: [Date]

## Technical Specifications
- **Database Changes**: [Schema/Performance/Replication]
- **Monitoring Requirements**: [Metrics/Alerts/Dashboards]
- **Backup Requirements**: [Frequency/Retention/Recovery]

## Integration Checklist
- [ ] Update database configuration
- [ ] Configure monitoring rules
- [ ] Update backup procedures
- [ ] Test recovery procedures
- [ ] Update operational runbooks
```

Finder Role Responsibilities

Primary Responsibilities

1. **Discovery Documentation**
   - Complete discovery ticket with all required information
   - Gather technical specifications and requirements
   - Identify all stakeholders and dependencies

2. **Stakeholder Coordination**
   - Notify relevant team members of discovery
   - Schedule and facilitate discovery review meetings
   - Coordinate with service owners for integration planning

3. **Integration Oversight**
   - Monitor integration progress
   - Ensure documentation updates are completed
   - Validate successful integration

4. **Knowledge Transfer**
   - Document lessons learned
   - Update process documentation based on experience
   - Train team members on new discoveries

Finder Assignment Process

1. **Automatic Assignment**: Person who discovers the new requirement
2. **Voluntary Assignment**: Team member volunteers to take ownership
3. **Management Assignment**: Team lead assigns based on expertise and workload

Troubleshooting Integration

Common Discovery Integration Issues

Issue: Incomplete technical specifications
Solution: Use discovery templates and checklists to ensure completeness

Issue: Missing stakeholder notification
Solution: Implement automated notification system based on service categories

Issue: Integration delays
Solution: Set clear timelines and milestone checkpoints

Issue: Documentation gaps
Solution: Require documentation updates as part of integration completion criteria

Discovery Process Metrics

Key Performance Indicators:
- Time from discovery to integration completion
- Number of discoveries per service category
- Integration success rate
- Documentation completeness score

Monitoring and Reporting:
- Weekly discovery status reports
- Monthly process improvement reviews
- Quarterly stakeholder feedback sessions

Integration with Existing Workflows

CI/CD Pipeline Integration

- Automated discovery validation
- Integration testing triggers
- Documentation update verification

Change Management Integration

- Discovery impact assessment
- Change approval workflows
- Rollback procedure validation

Incident Response Integration

- Discovery-related incident tracking
- Post-incident discovery reviews
- Process improvement feedback loops

Related Documentation

- Infrastructure Services SOP (../services/infrastructure_sop.md)
- AI/ML Services SOP (../services/ai_ml_sop.md)
- UI Services SOP (../services/ui_sop.md)

- Operations Services SOP (../services/operations_sop.md)
- Documentation Standards (../standards/Documentation_Standards.md)