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Phase 0 PoC Success Criteria Definition

Pilot Overview

Scope: 5 researchers (Phase 0 manual MVP)
Purpose: Demonstrate cloud bursting viability and justify investment in paid Phases 1, 2, 3
Strategic Goal: Validate need for automated, enterprise-scale HPC cloud solution serving 250+ labs

Success Evaluation Framework

1. Operational Metrics

Feasibility Validation

- Successful GPU resource provisioning in IBM Cloud

- Functional data transfer via manual methods (SFTP/Aspera)

- Workload completion using cloud resources

- Basic integration with existing LRI workflows

User Experience Documentation

- Researcher ability to complete computational tasks

- Identification of manual process pain points

- Time required for manual provisioning and management

- Support burden on IT staff

Scalability Assessment

- Clear documentation of manual process limitations

- Projection of resources needed if expanded manually

- Identification of automation requirements for 240 labs

2. Financial & Efficiency Metrics

Baseline Cost Establishment

- Actual cloud resource consumption costs

- Hidden costs of manual management

- Time investment required per researcher

- IT overhead for manual support

Efficiency Gaps (Justifying Phase 1 Investment)

- Quantified time lost to manual provisioning

- Productivity impact of manual data transfers

- Cost of human errors and resource waste

- Opportunity cost of researcher time on infrastructure

ROI Projection

- Estimated savings from automation (Phase 1)

- Productivity gains from integrated solution

- Cost-benefit analysis for full deployment

3. Security & Management Metrics

Risk Documentation

- Security gaps in manual approach

- Compliance challenges with synthetic data only

- Data governance limitations

- Access control complexities

Management Burden

- Resource tracking difficulties

- Cost control challenges

- Cleanup and optimization issues

- Audit trail limitations

Success Determination

Primary Success Indicators for Phase 0 PoC

Technical Success

- ✓ Researchers successfully access GPU resources

- ✓ Computational workloads complete successfully

- ✓ Data transfer mechanisms function (even if inefficient)

Business Case Validation

- ✓ Demonstrated immediate GPU need satisfaction

- ✓ Clear documentation of manual process inefficiencies

- ✓ Compelling evidence for automation necessity

- ✓ Quantifiable pain points that Phase 1 would resolve

Strategic Positioning

- ✓ Leadership understanding of current limitations

- ✓ Clear path from manual to automated solution

- ✓ Validated demand from research community

Expected Outcomes

Immediate Deliverables

- Functional cloud bursting capability (manual)

- Performance baseline metrics

- User feedback documentation

- Cost and time analysis

Investment Justification for Phases 1-3

Evidence demonstrating:

- **Phase 1 Need**: Automation essential for scale

- **Phase 2 Need**: Integration required for efficiency

- **Phase 3 Need**: Enterprise features for 240 labs

Decision Criteria for Leadership

- Proof of cloud bursting value proposition

- Clear limitations of manual approach

- Quantified benefits of automation investment

- Risk mitigation through phased approach

Success Metric Targets

Minimum Viable Success

- 3+ researchers complete GPU workloads

- 50%+ time savings identified with automation

- Cost predictability demonstrated

- Security gaps documented

Optimal Success

- 5 researchers actively using platform

- 75%+ efficiency gains projected with Phase 1

- Strong user demand for automation

- Clear ROI within 12 months of Phase 1 implementation

Path Forward Upon Success

Phase 0 Success → **Phase 1 Funding** → **Automated Cloud Bursting** → **Enterprise Deployment (240 labs)**