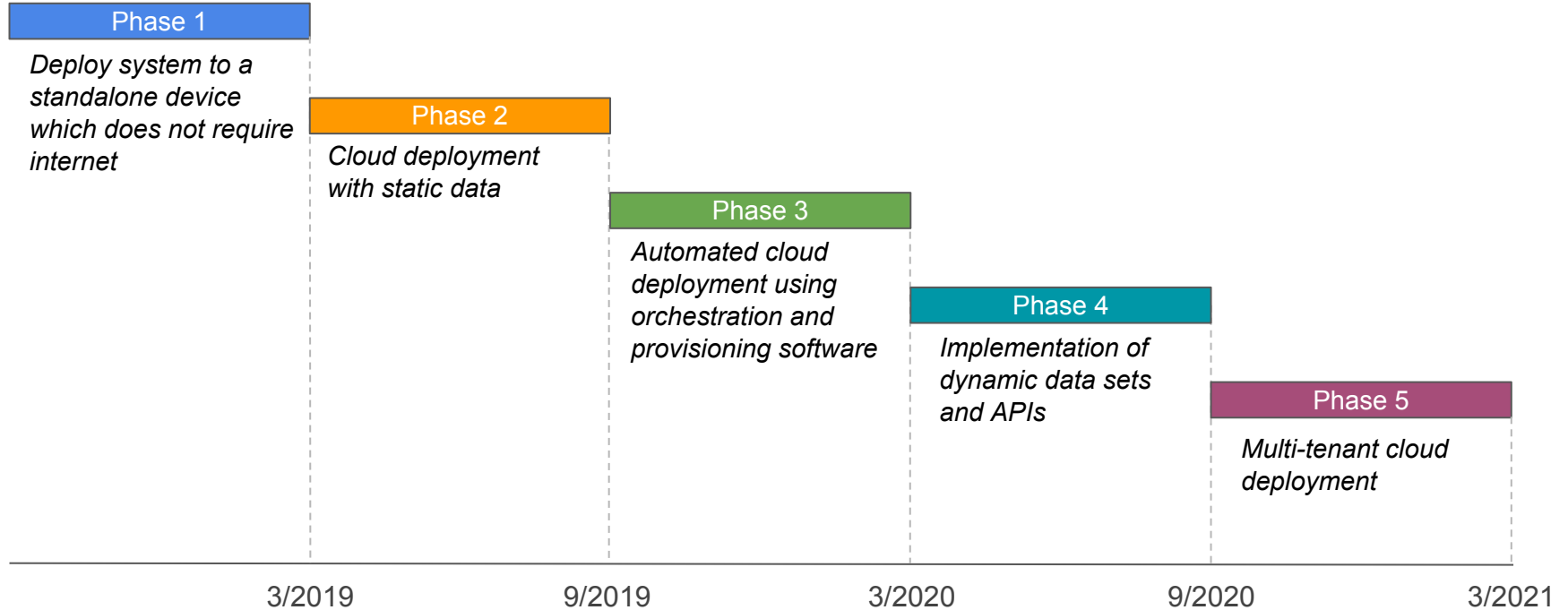


World Modelers System Integration Project Plan

Jataware LLC

Project Phases



Phase 0.5: Software Readiness Assessment

Goal

Assess overall component level readiness

Time Frame

Current through November Hackathon

- Currently underway
- Assess software readiness in terms of functionality, testing and documentation
- Establish system level documentation identifying key integration points
- Identify priority software components to be included in Phase 1 end-to-end capability
- Establish baseline assessment to track integration status of various components

Phase 1: End-to-End Demo Capability

Goal

Deploy system to a standalone device which does not require internet

Time Frame

November Hackathon through 03/2019

- System will be available in a form which could be used on a “demo” laptop or other device
- Requires containerization or virtualization of technologies
- Requires pre-identified use case and datasets
- Specific component releases must be tested and integrated and updates can be pushed on an ad hoc and manual basis
- System can be deployed to a device and run, end-to-end, without connectivity

Phase 2: Cloud Deployment

Goal

Cloud deployment with static data

Time Frame

03/2019 to 09/2019

- System will be manually configured in an Amazon Web Services cloud environment
- Deployment will be single-tenant
- Requires pre-identified use case and datasets
- Updates can be pushed semi-automatically
- System can be demonstrated from any client which has internet connectivity

Phase 3: Infrastructure Automation

Goal

Automated cloud deployment using orchestration and provisioning software

Time Frame

09/2019 to 03/2020

- Automated configuration and deployment to an Amazon Web Services cloud environment
- Deployment remains single-tenant, but multiple instances could be created
- Continues to require pre-identified use case and datasets
- Updates can be pushed fully automatically
- System can be demonstrated from any client which has internet connectivity

Phase 4: Dynamic Usage

Goal

Implementation of dynamic data sets and APIs

Time Frame

03/2020 to 09/2020

- System deployment is no longer dependant on pre-identified use cases and datasets
- Deployment remains single-tenant, but multiple instances could be created
- Requires increased flexibility of software components
- Datasets still likely constrained but use cases may vary

Phase 5: Multi-Tenant Production

Goal

Multi-tenant cloud deployment

Time Frame

09/2020 to 03/2021

- Single system can support multiple end-users and organizations
- Optimized for cloud cost savings and production level system resilience
- Simplifies technical transition and system maintenance
- Reduces O&M complexity and labor costs to manage in production

Project Approach

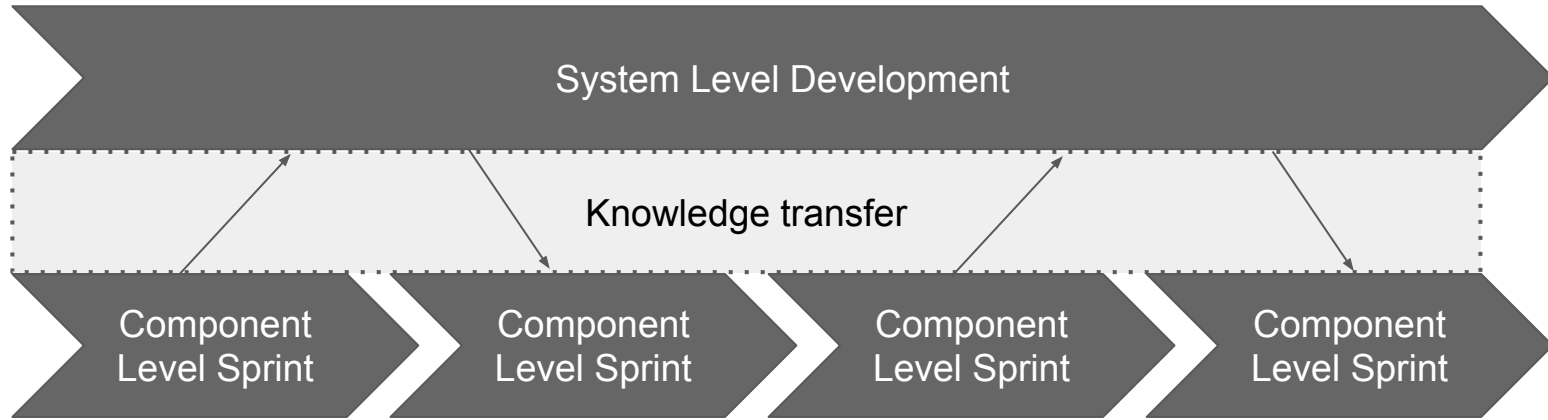
System Level

- Jataware oversees architecture and systems level development
- Identification and resolution of integration issues
- Hackathon/demo planning and execution
- Cloud deployment and deployment automation

Component Level

- Individual 2 week deep dives per core software component
- Prioritized and staged based on system needs
- Includes kickoff meeting and wrap-up meeting with PI
- Enhances Jataware understanding of component and accelerates ability to debug integration issues

Project Approach



- Two approaches occur simultaneously
- Knowledge from component level sprints is continuously incorporated into system level development and vice versa