

Near-Site Agile

SCALING AGILE WITH REAL-WORLD CONSTRAINTS



Bottom Line Up Front:

Near-Site Agile Scales Agile Beyond the Client-Site

Near-Site Agile extends scale agile beyond the limits of a client-site location:

- Limited Facility Space at Client Site
- Client's Availability as Product Owners
- Limited Talent Near Client to Work On-Site

Near-Site Agile uses IBM's Agile With Discipline, however, the team is split by location:

- Project Manager, Business Analyst, and Product Owner colocate on client-site
- Developers and Testers colocate at a Client Delivery Center (CDC)

Benefits include:

- Low-Cost, Reliable Resources
- Reduced Facility Costs
- Scalability Across Multiple Teams and Clients

Case Study:

National Archive's ERA 2 Pilot

Near-Site Agile was developed and refined for IBM's project with the National Archives and Records Administration (NARA), called Electronic Records Administration (ERA) 2; made up of two applications:

- **Digital Processing Environment (DPE)** - Scalable transfer processing of electronic records
- **Digital Object Repository (DOR)** - Permanent, robust preservation and access to GOV records

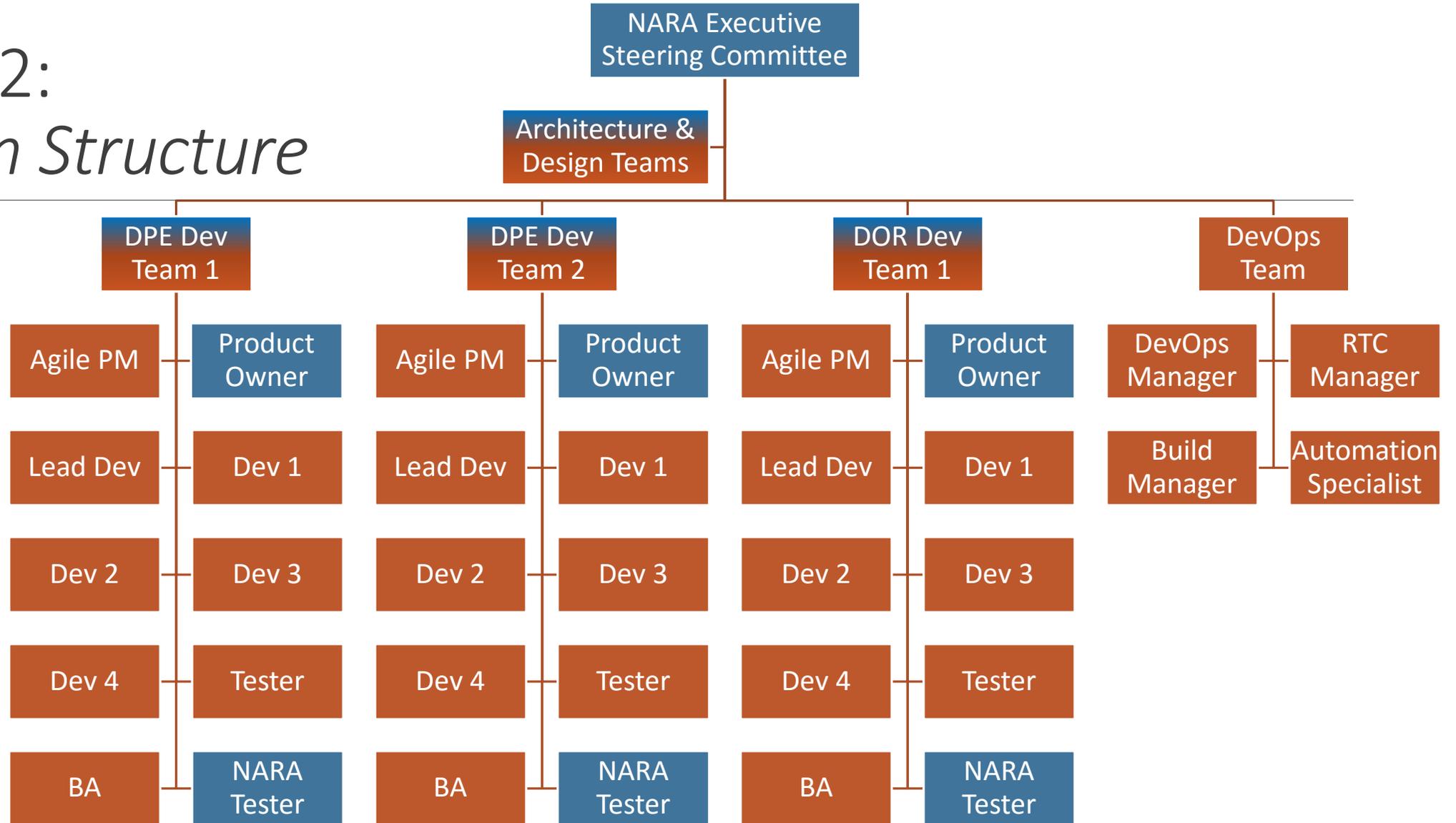
Total Project Personnel:

- 35 IBM Employees (3 Agile Development Teams and 1 DevOps Team)
- 15 NARA Employees (3 NARA Testers, 3 Product Owners, 2 PMs, 2 Architects, 3 Admin)

Outcomes:

- Scoped, designed, developed, and tested a cutting-edge cloud-based archiving system in 10 months
- Delivered all “must-have” functionality on-time, under budget, and in compliance with NARA standards
- Established IBM Agile Customer Delivery Center in Rocket Center, WV
- Reduced software development labor costs by over 40%
- Winner of *Project of the Year in Project Management* in 2015 global competition

ERA 2: *Team Structure*



Defining Agile:

Agile Principles and Agile With Discipline (AWD)

The codified agile principles were established in 2001 with the Agile Manifesto. These core principles state that agile practitioners should emphasize the following items on the left over the items on the right:

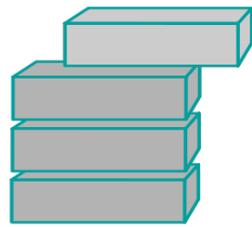
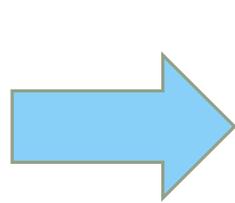
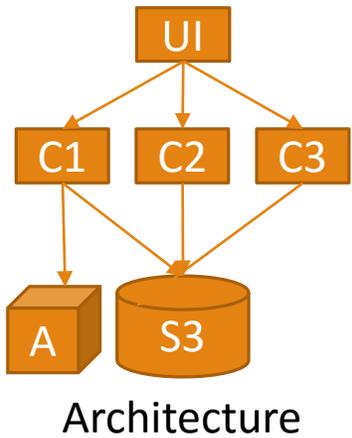
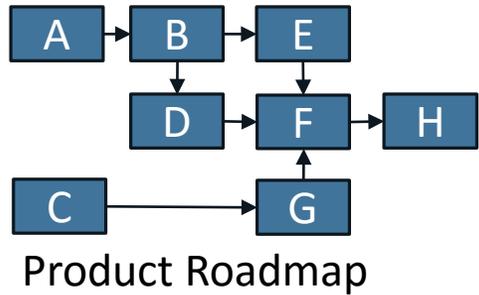
- Individuals and Interactions OVER Processes and Tools
- Working Software OVER Comprehensive Documentation
- Customer Collaboration OVER Contract Negotiation
- Responding to Change OVER Following a Plan

Agile With Discipline (AWD) adds structure by instituting the following processes:

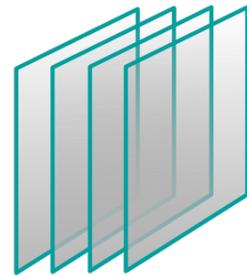
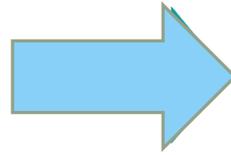
- Operate with whole teams (4-5 Developers, 1 Tester, 1 Business Analyst, 1 PM, 1 Product Owner) on client site
- Start with a “Solution Definition” phase to plan releases including the number of iterations (sprints) and major feature milestones
- During “Solution Development” architects and experts are integrated into development teams by PM and Product Owner as needed
- Each iteration includes 1 planning day (first), ~18 working days, 1 demo and retro day (last)

Understanding AWD: *Processes Visualized*

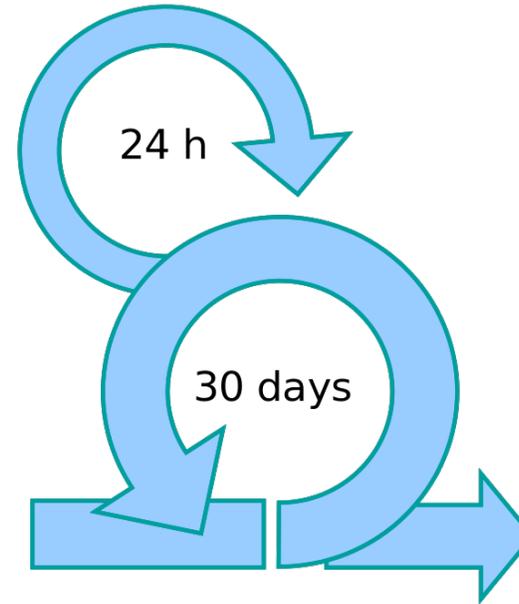
“Solution Definition”



Product Backlog



Sprint Backlog



Sprint



Working increment
of the software

“Solution Development”

Developing Near-Site Agile: *Needs and Adjustments to Scale with Constraints*

Constraints at NARA with using Agile With Discipline (AWD) threatened to limit delivery to one Dev Team:

- **Lack of Product Owners** – NARA had been under a hiring freeze and didn't have enough experienced and senior staff who could be spared to be full-time product owners for ERA 2
- **Lack of Space at Client Site** – NARA originally planned to have space for IBM's development teams, but AWD requires open “agile” spaces and dedicated conference rooms to enable face-to-face interaction which were not available
- **Lack of Talent Near Client Site** – IBM identified that NARA's location in College Park was not easily accessible by its available developers; most of whom didn't have the skills needed for the ERA 2 project

The following adjustments were made to AWD, enabling delivery at scale despite real-world constraints:

Colocate by Function – Teams would split geographically between business and technical roles, but still remain “whole” teams.

- Project managers and business analysts would locate at client-site
- Developers and testers would locate at the client delivery center (CDC) in Rocket Center, WV

Near-Site Team Building – teams would travel to each other's site when needed for team building.

Simulated Colocation – teams heavily use video-conferencing for meetings and quick conversations.

Implementing Near-Site Agile: *Challenges and Lessons Learned*

Travel and Communication Costs - Logistical challenges in maintaining cost efficiency of distributed teams despite travel on a monthly or more frequent basis by all team members.

- Requires significant setup of collaborative technologies in both locations, which can add cost to the customer.
- Ability to distribute teams is limited to a reasonable travel distance, so that teams still meet within the same or nearly same time zone.

CDC Incentives and Culture – Difficulty with accurate and timely escalation of issues, since CDC team members will work to compensate for bad planning in order to bolster the CDC reputation.

- PM must be actively fighting these tendencies that could lead to team burnout and inherently exploit the CDC teams.
- Requires tight reporting, adherence to daily standups, and reporting through shared tools (Rational Team Concert)

Talent and Growth Rates at CDC – Scalability is limited by the growth rate sustainable at a CDC of available talented resources. Within the ten months the NARA ERA 2 project had to start hiring subcontractors.

- CDC members need to train each other to ramp up skills acquisitions
- PM needs to be prepared to send senior staff to the CDC to train and grow teams

Validating Near-Site Agile: *Benefits from Adopting a New Approach*

Low-Cost Resources – savings on software development labor can be 40-50% or more.

- More than makes up for the additional logistical costs and can be an incredible competitive advantage.
- Net labor savings can be up to 40% compared to staffing at client-site (given most team resources are at CDC)

Reliable Resources – People at the CDC stay in the town because that's where they want to live.

- Resources are stable and the PM spends less time in-project training or backfilling.
- Reduced churn leads to savings in building trust and enhances the continuous improvement processes central to agile practice

Stable Product Owners – client personnel (e.g. product owners) can remain on-site and still be connected to the team

- Product owners stay engaged at least part-time in the business they represent – increasing their effectiveness.
- Video Conferencing enables teams to stay connected, and product owners to quickly jump in and out of their roles

Reduced Facility Costs – CDC facilities are cheaper and often flexible to be designed as true “agile spaces.”

- Benefits of open designs and dedicated team rooms include speed of information transfer and more efficient meetings
- Because the CDC is owned by the contractor – re-organizing the CDC can be flexible and responsive to adding or changing agile teams

Scalability of Delivery – *because the Near-Site Agile approach lowers the burden on the client for facilities and people there is greater capacity for scaling up delivery, especially in government or highly constrained client environments.*