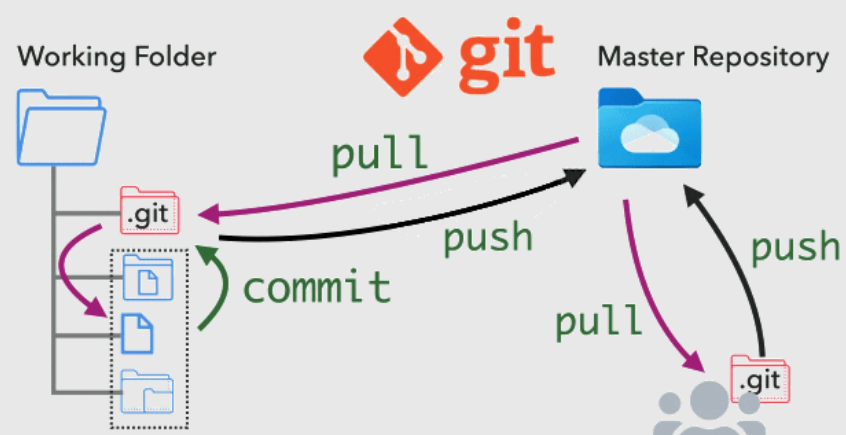


Rajwanur Rahman (rajwanur.rahman@phastar.com)

01

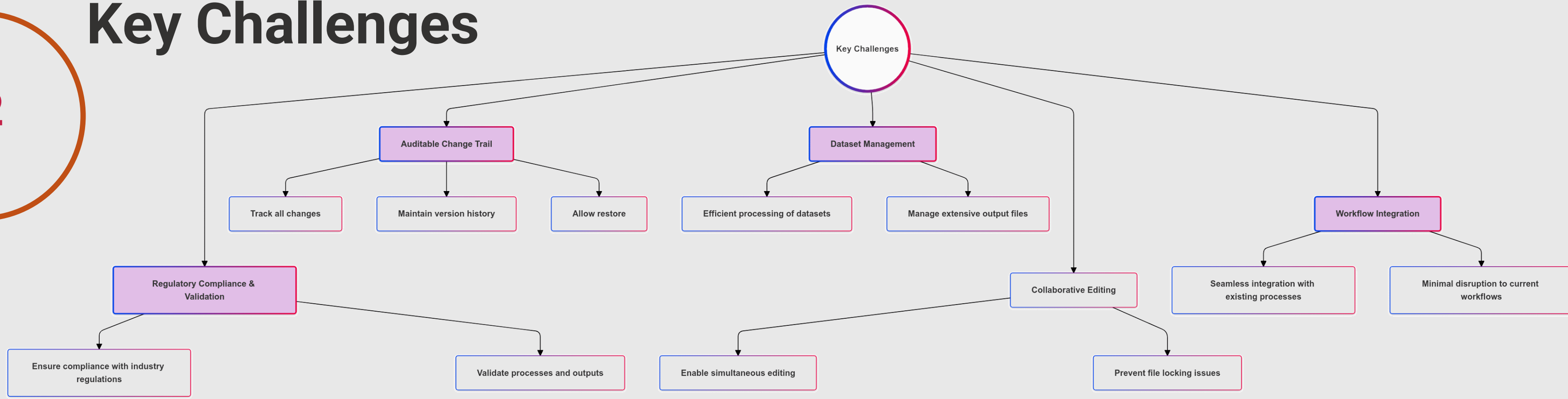
Introduction

Implementing version control in SAS projects presents unique challenges compared to other development projects. Our organization has successfully adopted Git, a powerful distributed version control system, by embracing its flexibility and adapting it to the specific requirements of SAS projects.



02

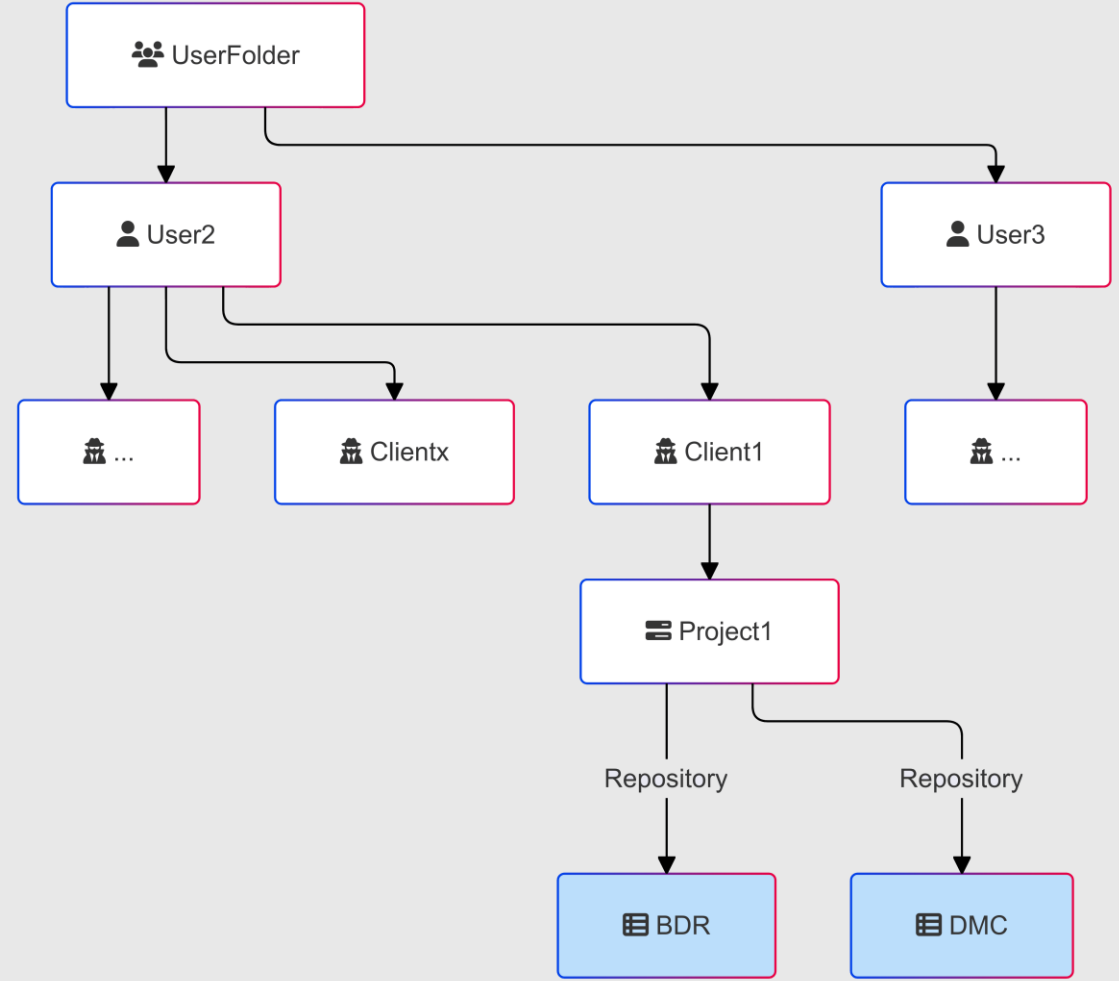
Key Challenges



03

Tailored Git Solution

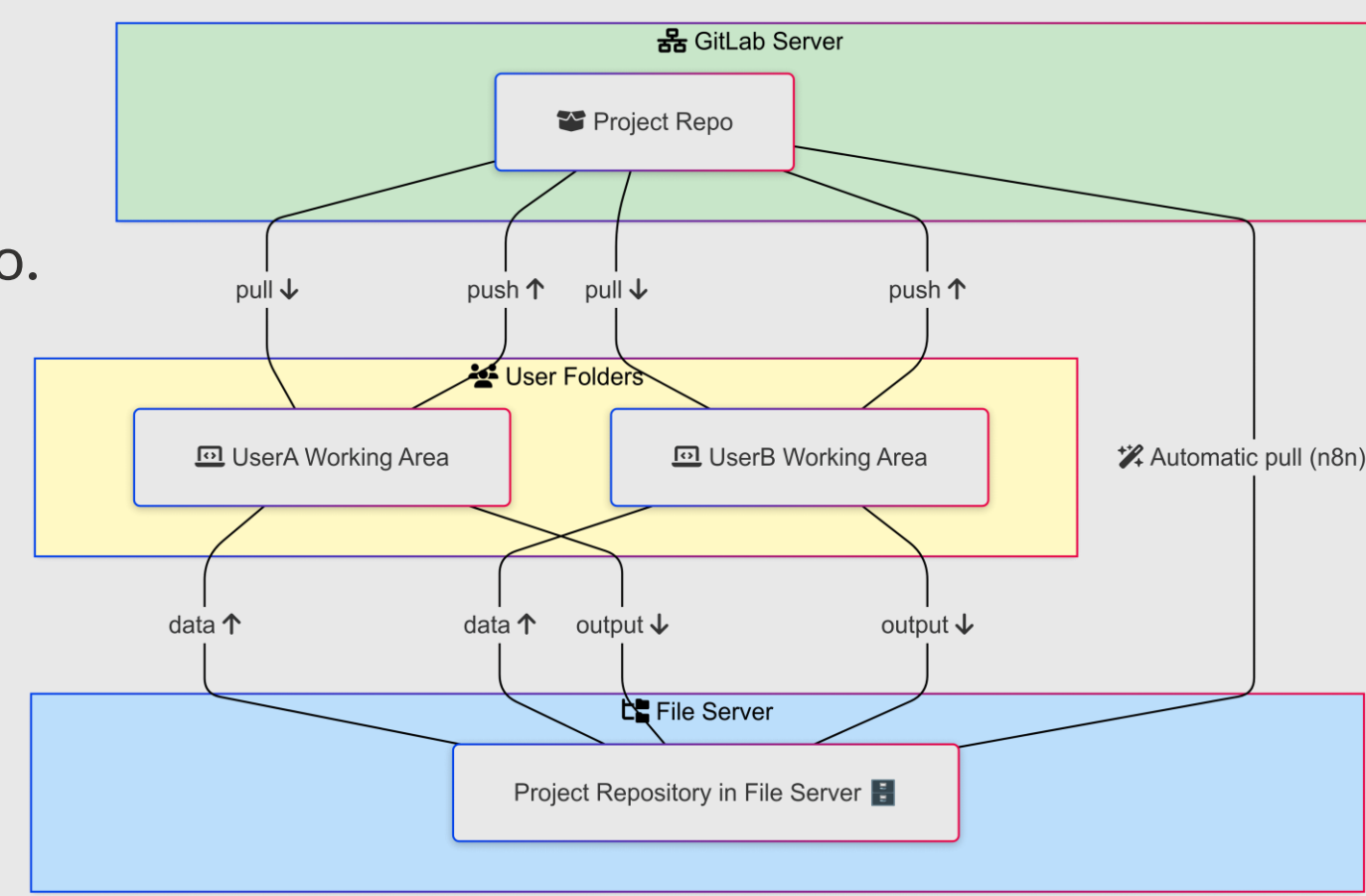
- Self-hosted GitLab instance for enhanced security
- Custom project structure with nested groups
- Integration with file server using Git submodules
- Separate User-specific work areas on the file server
- Data linked from project area, not copied to user area



04

Innovative Workflow

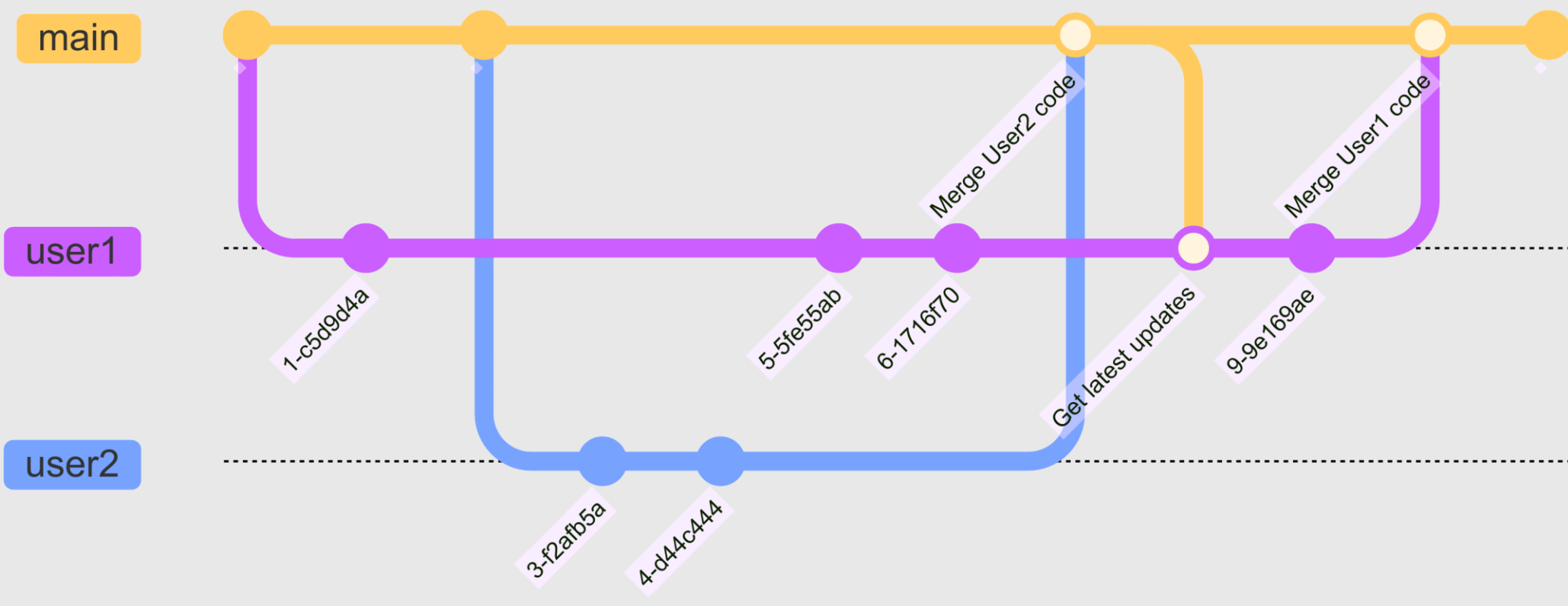
- Streamlined git operations (clone, pull, checkout, switch, and simple merge) via a custom SAS macro.
- Automated repository cloning and branching
- Automatic data and output management
- Strict data exclusion using .gitignore and GitLab server configuration
- Pull request-based code review process
- Protected main branch to ensure code quality



05

Benefit Achieved

- Enhanced collaboration among team members
- Improved code review processes
- Efficient issue identification and resolution
- Increased productivity in SAS development
- Reproducible SAS solutions for clients
- Full commit history serves as an audit trail



06

Key Features

- Flexible work environment: SAS Studio or external editors
- No file locking, allowing multiple programmers to work simultaneously
- File server automatically sync with repository server
- Version tagging and release process
- QC validation workflow integration
- Separation of development and final outputs

