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TEAM FOUNDATION BUILD AND NAV DEVELOPMENT

Soren Klemmensen, Kamil Sacek, Luc van Vugt
(360 Visibility / Navertica / fluxxus.nl)

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INTRODUCTION

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TEAM BUILDERS

NL



Luc van Vugt
aka Longshanks, or not-Mr.-mibuso Luc

| @lucvanvugt

CZ



Kamil Sacek
aka Kine

| @MVPKine

CA



Soren Klemmensen
aka Girth

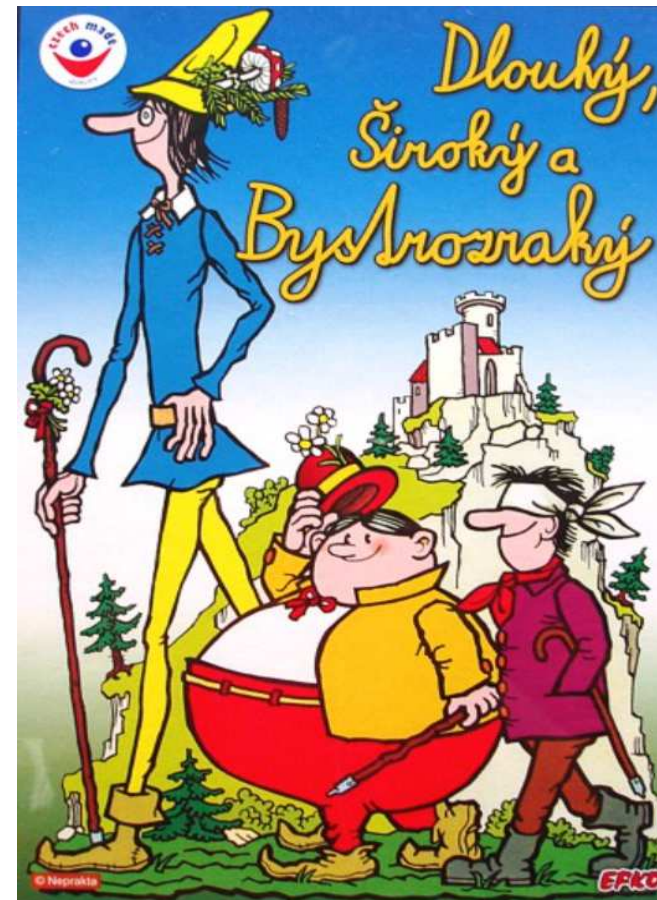
| @SorenKlemmensen

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TEAM BUILDER FRIENDS

LET'S GO



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AGENDA

1



Source Code Management

2



Build

3



Summary | Q & A

AGENDA

1



Source Code Management

2



Build

3



Summary | Q & A

SOURCE CODE MANAGEMENT – WHY?

Why was change done?

Requirement

What does change contain?

Code change

Who did change?

Author

Where did change 'go'?

Change Flow

What changes have been applied?

History

SOURCE CODE MANAGEMENT – WHY?

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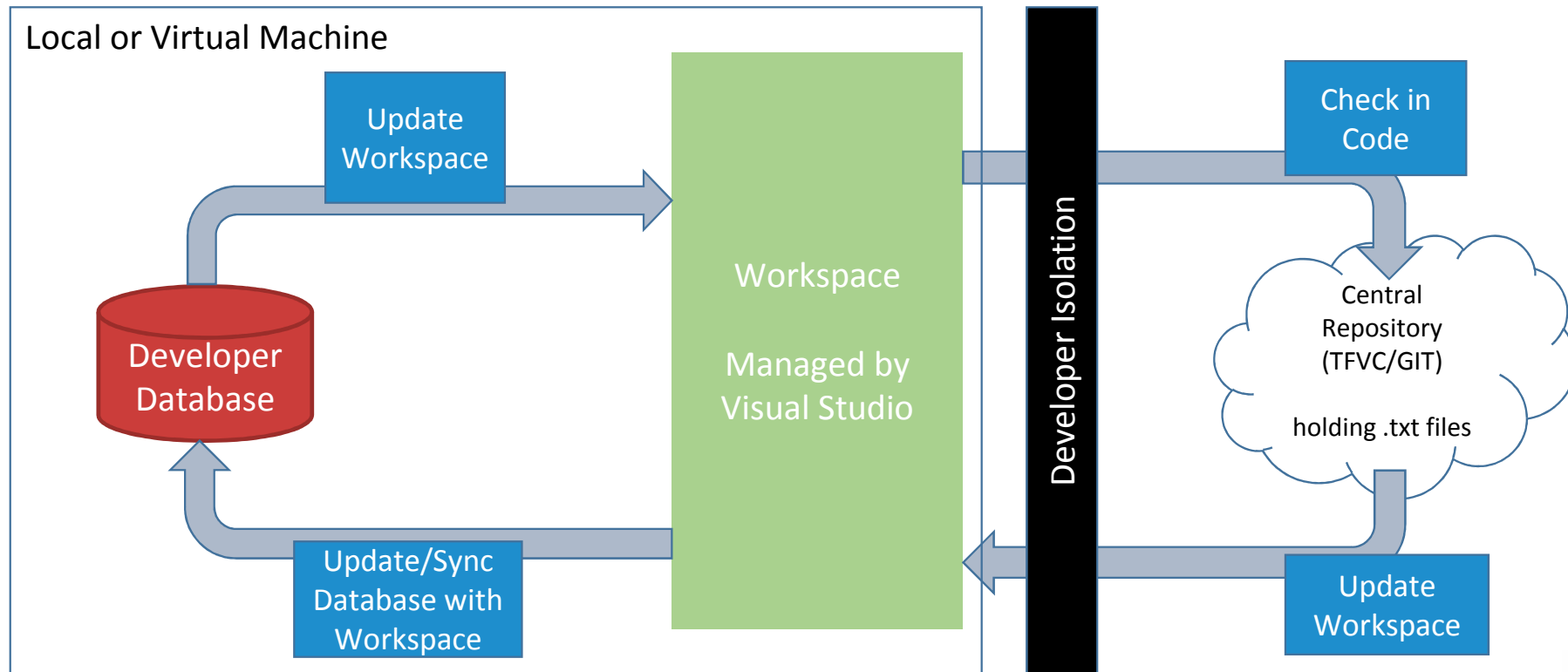


SOURCE CODE MANAGEMENT – WHY NOW?

To coop with the current directions of NAV

- Deliver your software (updates) add speed
 - Cumulative Updates
 - Managed Services
- To manage *more-than-NAV* source code
 - PowerShell scripts
 - Client Add-ins
 - .NET components

SOURCE CODE MANAGEMENT





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SCM DEMO

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SOURCE CODE MANAGEMENT – BENEFITS

Secured code

History at hand

Release per changeset possible

- 1 changeset per requirement
- Rollback

Code Review

- code improvement

TFS/GIT

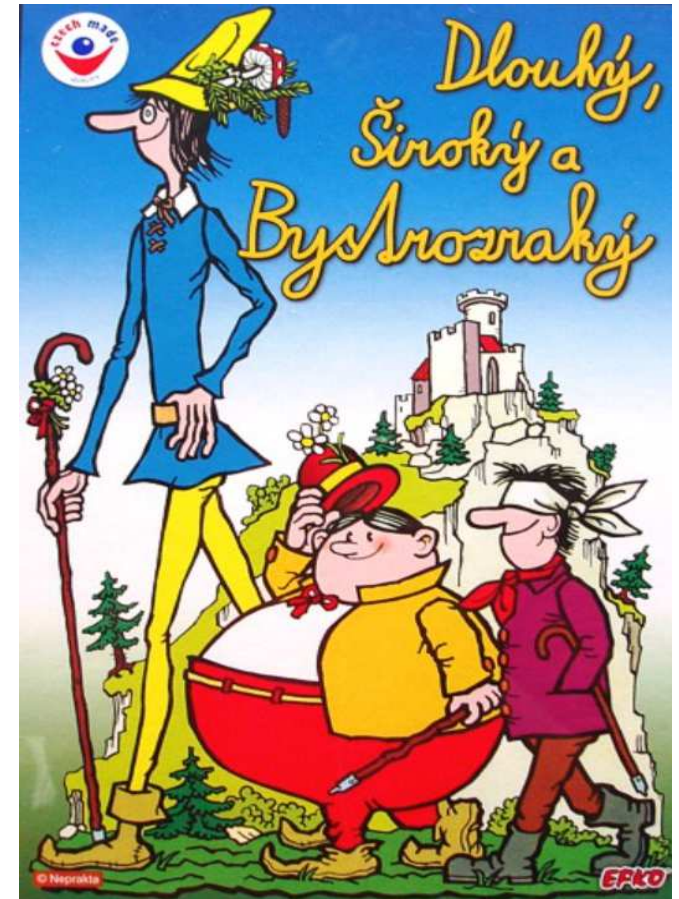
- used by many
- lots of built-in and plug-in tooling
- API

YOU KNOW

... it's no rocket science

... but it's like friendship ...

... we cannot do without



GIT OR TFVC?

GIT

- Distributed
- History available locally
- Branches are lightweight
- Currently only partial support in VS
- Full support in external GUI

TFVC

- Centralized
- History on server only
- Branches are path-based and created on server
- Full support in Visual Studio
- Limited support in external GUI

WHAT FITS YOU BEST...?

AGENDA

1



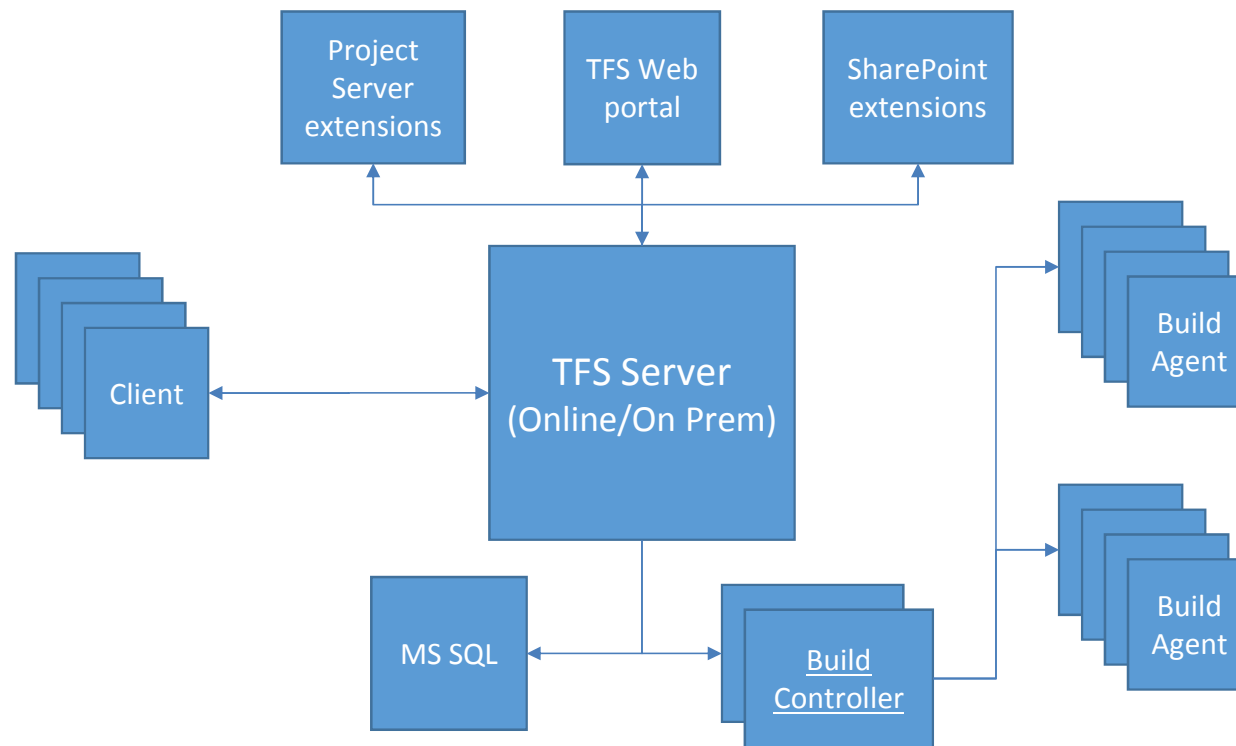
Source Code Management

2

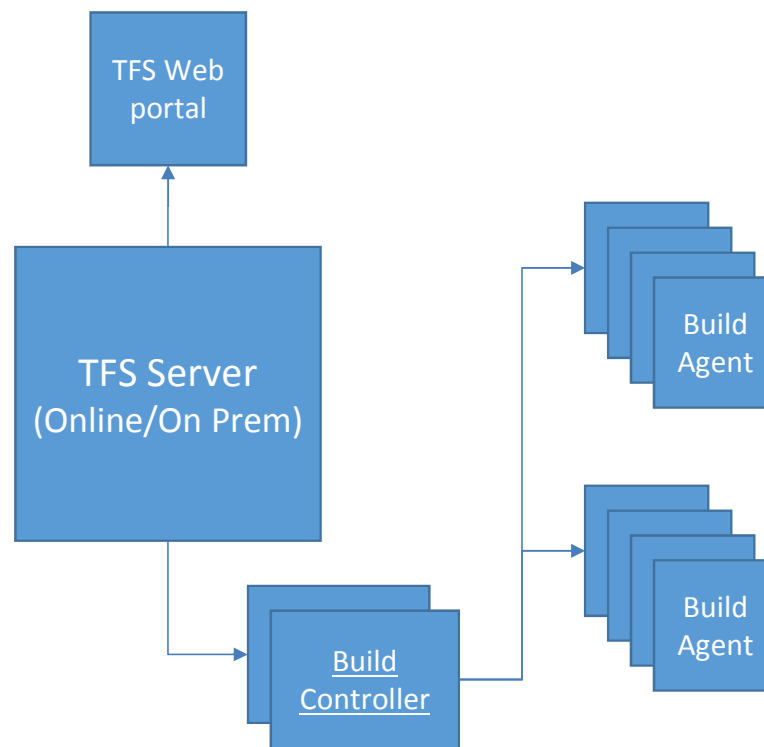


Build

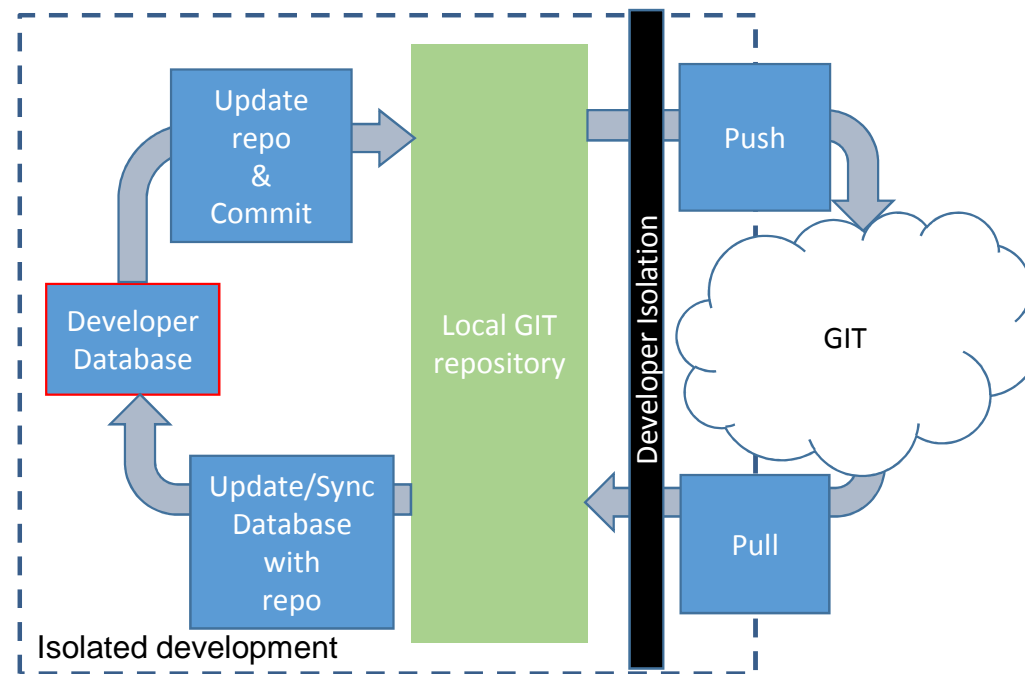
TFS ARCHITECTURE



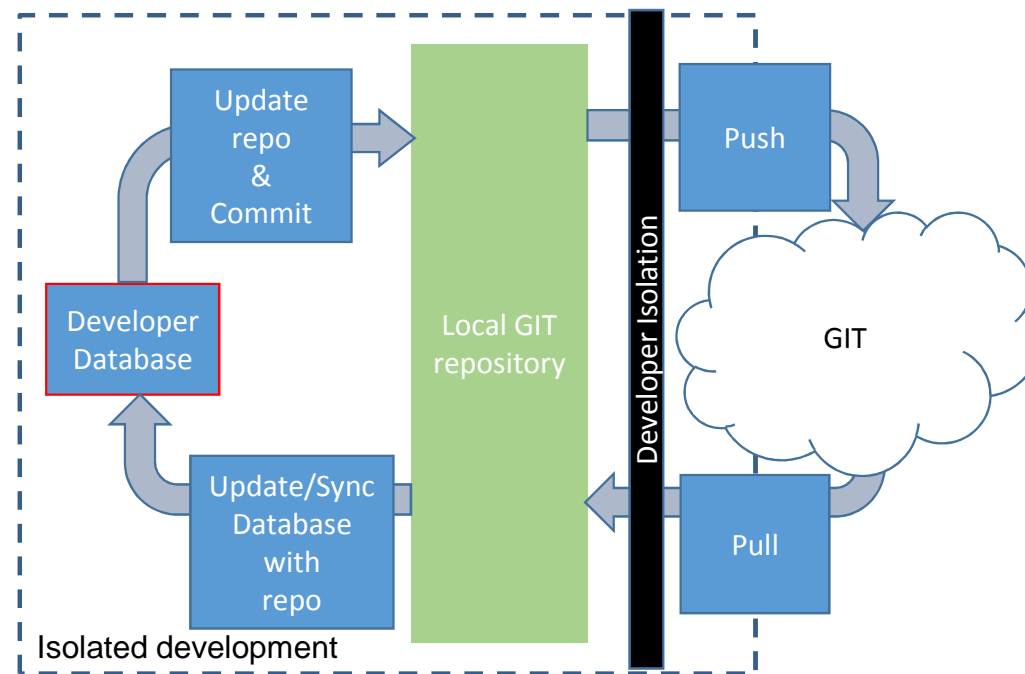
TFS ARCHITECTURE



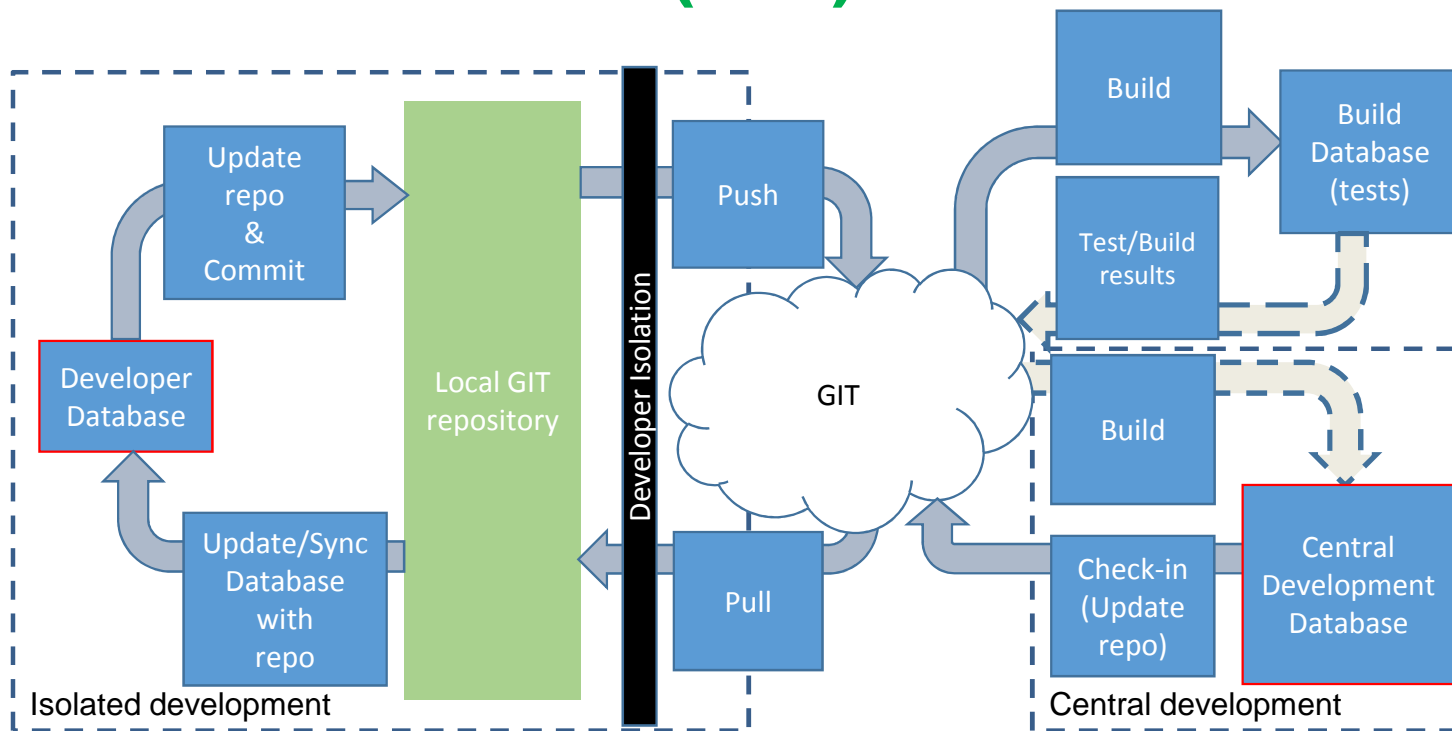
HOW IT WORKS (GIT)?



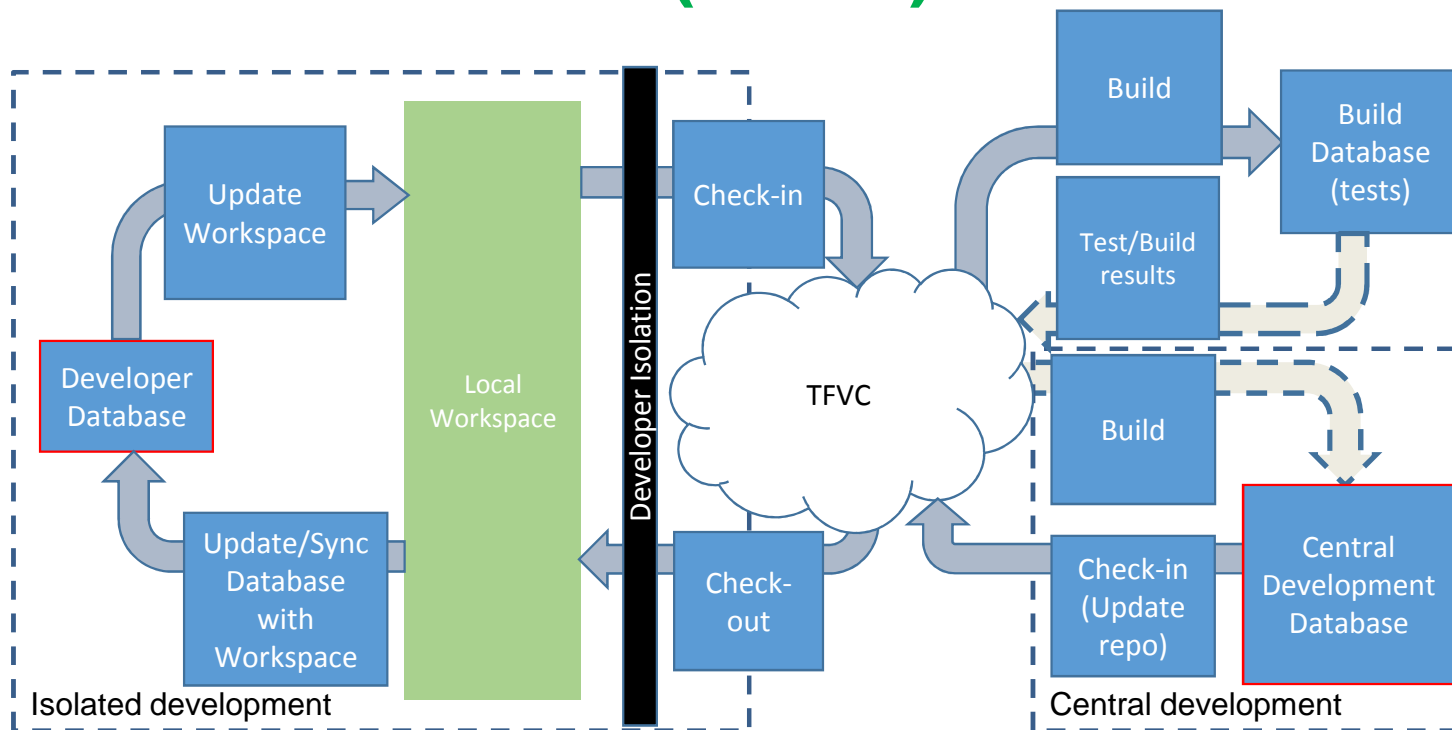
HOW IT WORKS (GIT)?



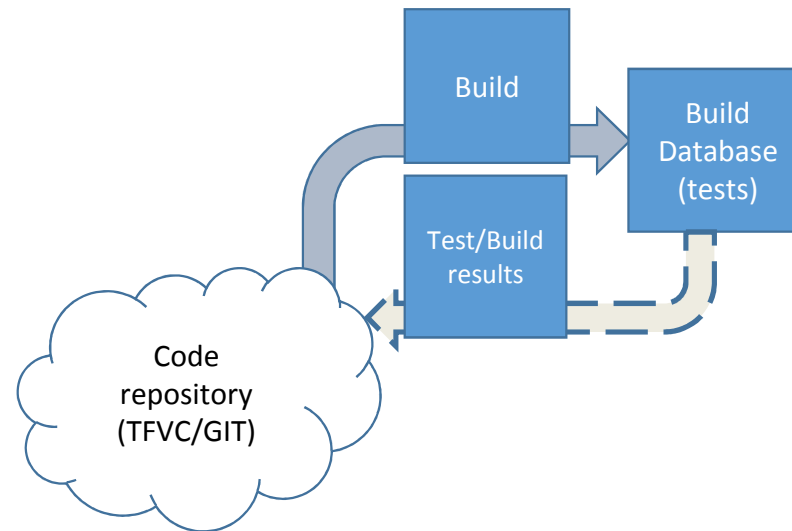
HOW IT WORKS (GIT)?



HOW IT WORKS (TFVC)?



BUT HOW DOES A BUILD WORK?



WHAT DOES IT MEAN “TO BUILD NAV”?

- Prepare the environment
 - Create NAV SQL DB from backup
 - Create NAV Server Instance
 - Install external components
 - Import NAV License
- Update objects
 - Import base FOB file(s)
 - Import txt file(s)
 - Compile objects
- Test the database
 - Select which test to run
 - Run tests
- Produce output
 - Export and publish test results
 - Export and publish FOB file
 - Create and publish NAVX
- (Deploy)

WHAT WE NEED TO BUILD?

- PowerShell scripts
- Build template
- Build definition
- Parameters
- Trigger



POWERSHELL SCRIPTS

- You need script for each build step
- Where to take them?
 - DIY
 - Already there:
 - <https://navscripts.codeplex.com/>
 - <https://github.com/waldo1001/>
 - Watch my blog: <http://dynamicsuser.net/blogs/Kine/>

BUILD TEMPLATE

XAML

Windows Workflow Foundation

Activities creating complex Workflow

PowerShell support through custom Activities

(Build agent for Windows)

TFBuild 2015

Web and script based

Basic Activities defining each step

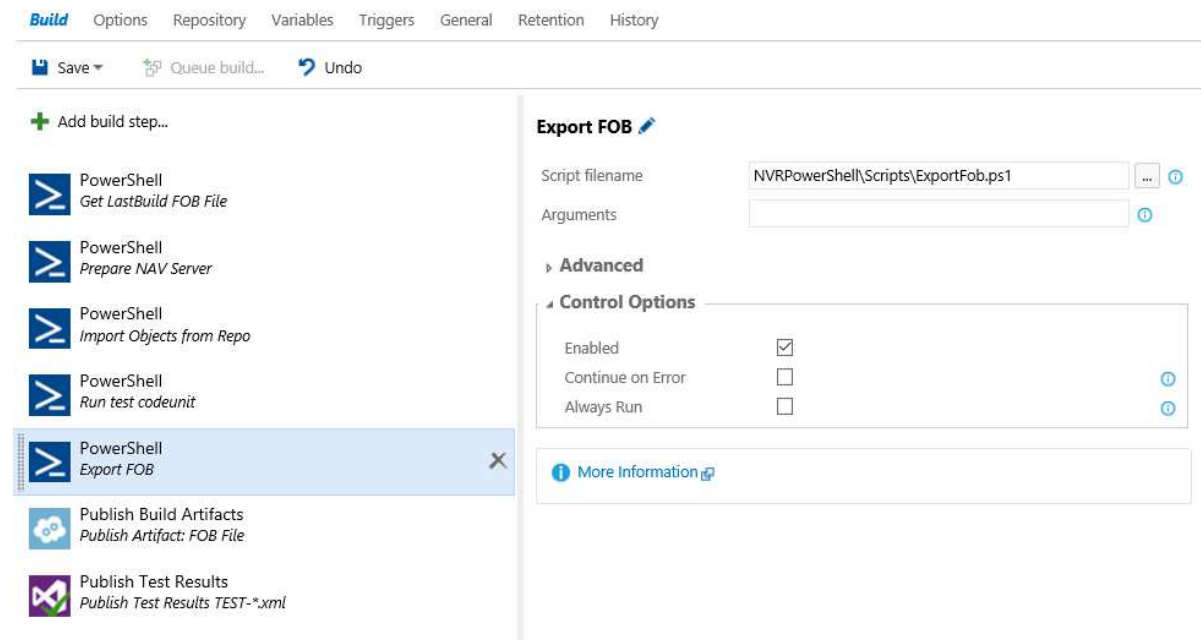
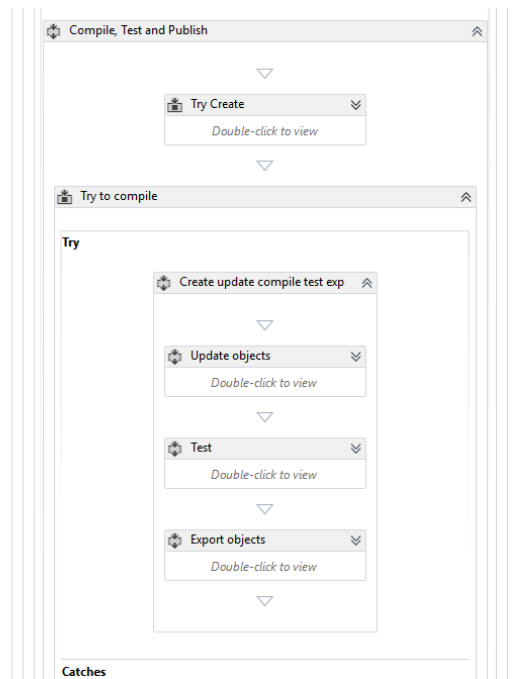
Executed step-by-step

Native support for PowerShell

Native support for GitHub repos

(Build agents for other platforms (xPlat))

BUILD TEMPLATE



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TEMPLATE DEMO

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BUILD PARAMETERS

In template

- Defined by template
- Configured in build definition
- Configured when queuing build

In versioned files (in repository)

- e.g. XML file
- Could change by each changeset/commit

BUILD PARAMETERS EXAMPLES

- SQL Server name
- SQL Database name
- Base DB Backup file
- Base FOB file
- License file
- NAV Version
- Differential build (yes/no)
- Clean DB (yes/no)
- Compile all (yes/no)



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PARAMETERS DEMO

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BUILD TRIGGER



Your changes

Build process

TFS Server

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TRIGGERS DEMO

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BUILD DEMO

Including Test Results

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AGENDA

2



Build

3



Summary | Q & A

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WHAT IS THE FUTURE LOOKING LIKE?

Deliver

- at high speed
- at high quality
- Fully tested
- At low cost

⇒ Automation



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DO YOU

Secure, protect and Manage your IP?

- One of the biggest assets of your company

Manage all your code?

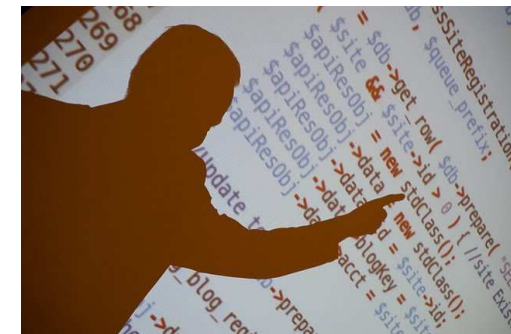
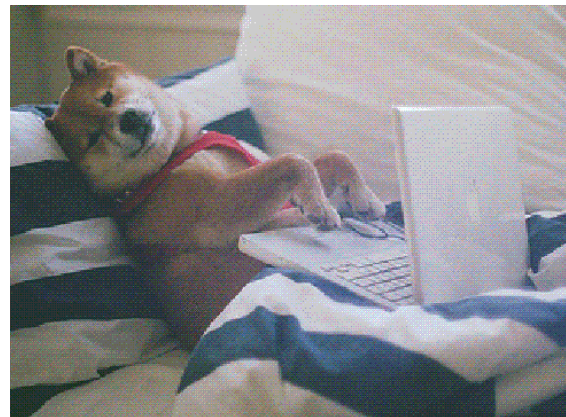
- NAV, PowerShell, JavaScript, ...

Secure constant developer improvement?

- Code Review

How are you testing your deliveries?

- Manually? Time? #Tests?



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SOURCE CODE MANAGEMENT

If you don't manage your code you:

- don't improve it
- cannot automate it
- don't learn from it

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<div id="copySpaceGrid">
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  <div class="csN"></div>
  <div class="csNE"></div>

  <div class="csW"></div>
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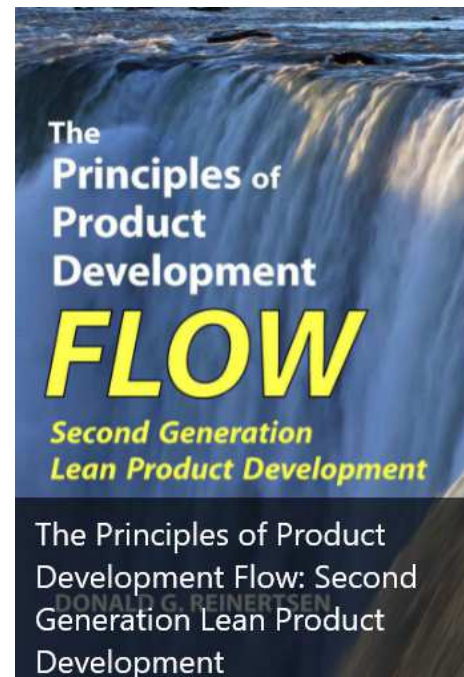
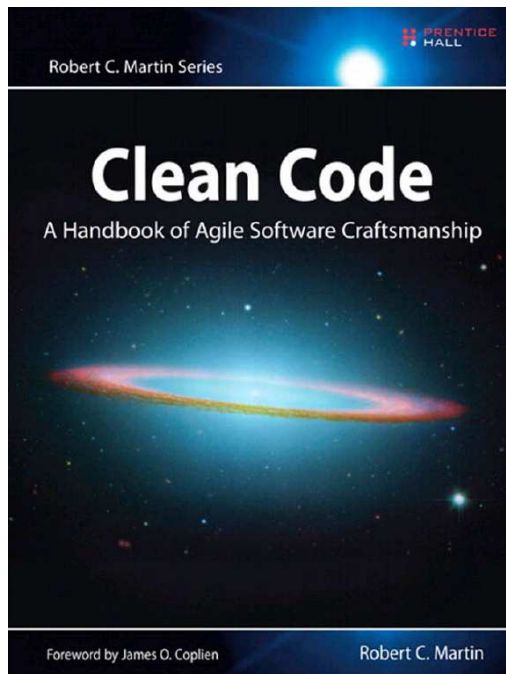
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GREAT BOOKS



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Any Questions?

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THANK YOU

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COFFEE BREAK

see you back in 30 min.

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