

# Continuous Integration

With TeamCity

A decorative graphic consisting of several horizontal lines of varying lengths and colors (teal, light blue, white) extending from the right side of the slide towards the center.

# Chris Sutton

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<http://subjunctive.wordpress.com>

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<http://crineta.org>

# What is Continuous Integration?

- Process of integrating your code frequently
- Daily is longest tolerable cycle
- Ideally you want a \*continuous\* build
  - Integrate a project based on each checkin
  - This isn't always feasible due to long build times

# Integrating your code?

- Automated build process that:
  - Gets source from VCS (source control is assumed)
  - Compiles your code
  - Runs tests
- Steps beyond that are unlimited
  - Fxcop
  - Deploy to test/prod
  - Ndepend
  - Code Coverage
  - ...

# Source Control

- If you aren't using source control let's talk afterward
- You are missing out on some peace of mind
- Even if you are the only one working on your codebase, source control is a good idea

# Why?

- Why not just build on my machine?
  - Then integrate at the end of the week?

# Because ...

- The longer you wait to fix an error the more costly it becomes to fix
- Now is when it is cheap to fix.
- Why not fix it when it is cheap?

# Incomplete vs broken

- You can have incomplete code
- You can have stubbed out code
  
- But you shouldn't have broken code
- Your code should compile
  
- If you do you should be fixing it soon



# When is the best time to fix an error?

- NOW (or at least soon)
- Common knowledge that sooner is better
- This is common sense in the physical world, but is easy to gloss over with code

# Building analogy



# Other benefits

- Coordinate your team
  - Notifications by email, messenger, rss
  - Taking responsibility for a failed build
- Validates that dependencies are in place
  - Not just embedded in some dev's computer

# Other assumptions

- Checkins happen at least every day
- Never hold onto code for more than a day
- If you need to hold onto it more than a day
  - You haven't broken it down enough
- Openness with your team is good
  - If you aren't getting it right others can help
- Build should be fast
- Source should be close to build server
  - For fast checkout speed

# Where does TeamCity fit in?

<http://www.jetbrains.com/teamcity>

(JetBrains is also one of our good sponsors)

# TeamCity

- Continuous Integration
- Build Automation

# TeamCity pieces

- Build Agent
- Project
- Build Configuration
- VCS Roots
- Notifications – email, jabber, windows notifier

# Demo

- Show current continuous build



# Demo

- Installation

# Demo

- Notification options

# Install TeamCity

- <http://jetbrains.com/teamcity/download>

# Licensing

- Professional - free
  - 3 agents
  - 20 users
  - 20 build configurations
- Open Source license – 1 year
- Enterprise license - \$1999
  - Well worth the money for large builds
- Build Agent - \$299

# Other Build solutions for .NET

- Roll your own (big .cmd file?, vbscript?)
- CruiseControl.NET
  - One of the oldest, and still good
- Cruise (v1)
- I think TeamCity is the strongest solution at this point.

# Thanks for attending!

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