



**WEBINAR**

# Breaking the Build Event Horizon

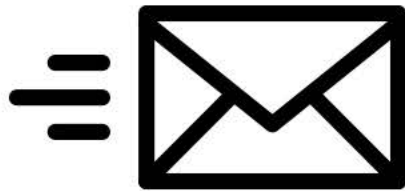


**PRESENTED BY:**

Ray  
Davis  
Medtronic



## Before We Get Started...



The webinar will be recorded  
and emailed to all registrants



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GoToWebinar to ask questions  
throughout the webinar

# WHAT ARE WE GOING TO TALK ABOUT TODAY

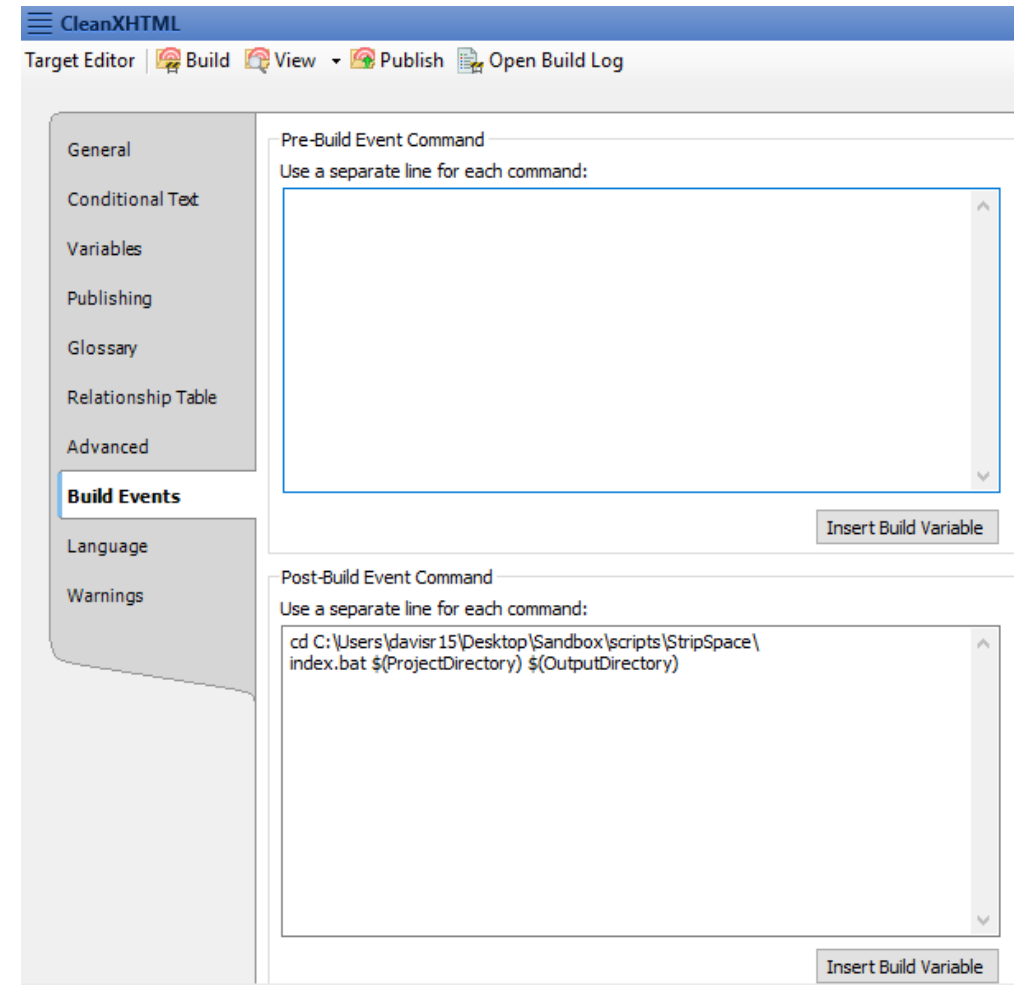
- What are build events
- A functional example
- Why does this work?
  - » What is XML
  - » How are we using XSL
- Making your scripts more portable
- Lessons learned - Less Oops! More Eureka!
- What do I need to make this work?

# FLARE – THE GOOD AND NOT YET GOOD

- Flare is really good at
  - » Re-using data
  - » Formatting data consistently
  - » Maintaining assumptions about data use
- Flare is not yet good at
  - » Changing data based on specific, testable circumstances
- Flare lets me ask for help with a build event

# WHAT IS A BUILD EVENT?

- Command line request sent from Flare
- More than just copy
- Transform content
  - » As small as individual characters
  - » As large as entire files
- Add, change, delete



Add MetaData

# ADD METADATA

What does it do:

1. Compares the content of the <body> result documents to a keyword list.
2. When a keyword is found in the content, the XSL adds that keyword to the <head> as a <metadata> node.
3. If a <metadata> node exists, it appends the keyword to the list already there.
4. Iterates through the keyword list, repeating from step 1.

Difficulty: Two thumbs



# Convert Units



# CONVERT UNITS

- What does it do:
  1. Looks for `<span>` tags around a numeric value.
  2. Reads the name attribute and converts the value of the node to the requested unit of measure.
  3. Sends the original value and the converted value to an output function for consistent formatting.
- Difficulty: Three thumbs

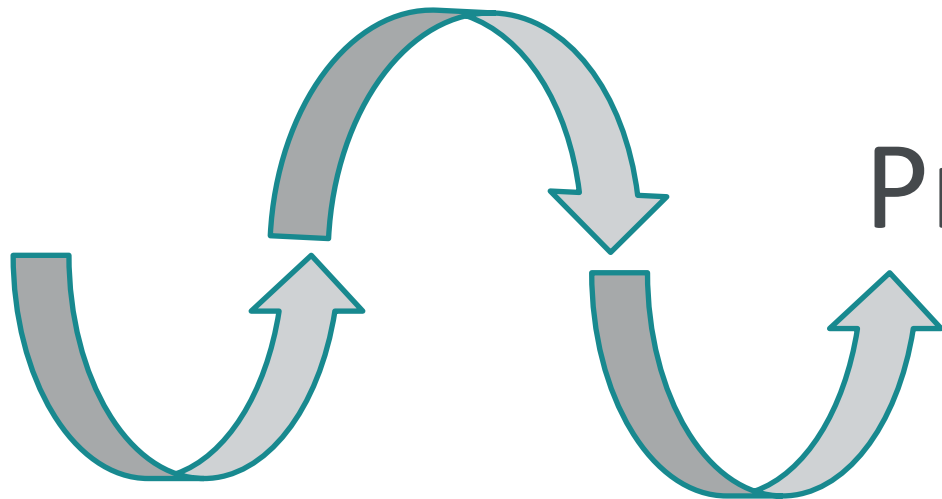


# XML IN FLARE

- Data in Flare is held in XML
  - » Content - \*.htm
  - » Variables - \*.flvar
  - » TOCs - \*.fltoc
  - » Targets - \*.fltar
- XSL “transforms”
  - » XML → XML
  - » Text → XML
  - » XML → Text

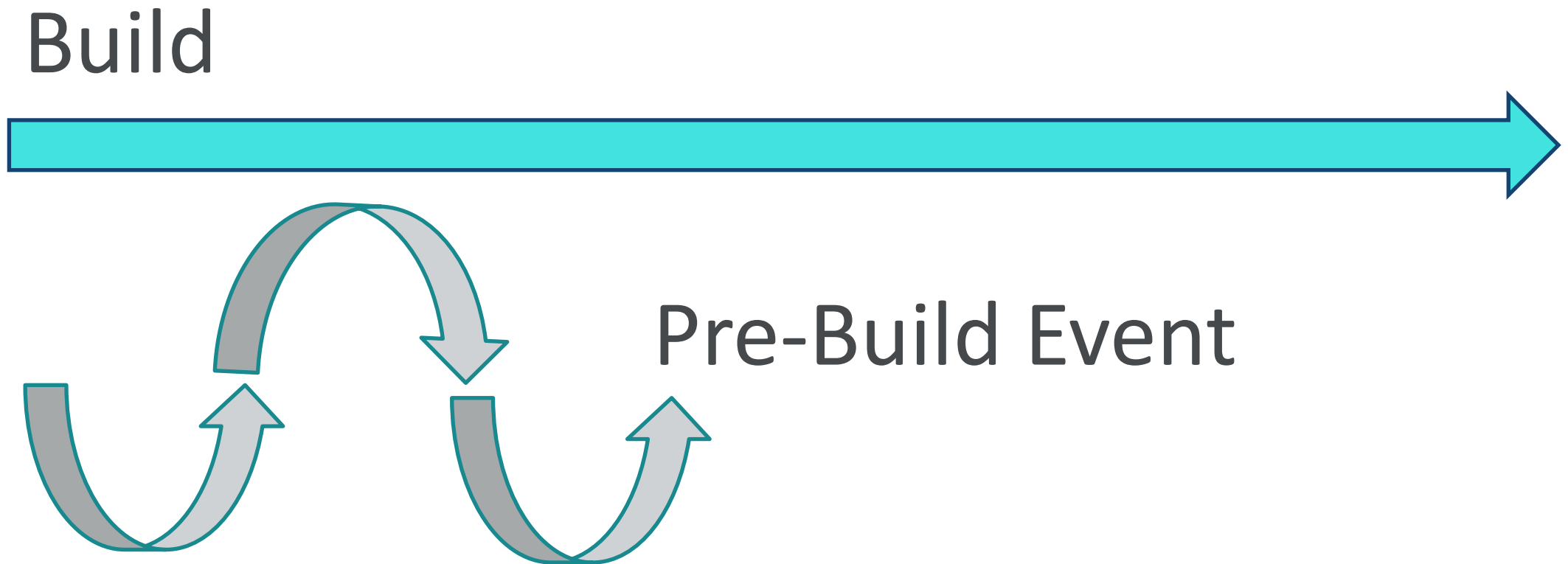
# THIS IS NOT WHAT HAPPENS

Build      Build pauses      Build continues



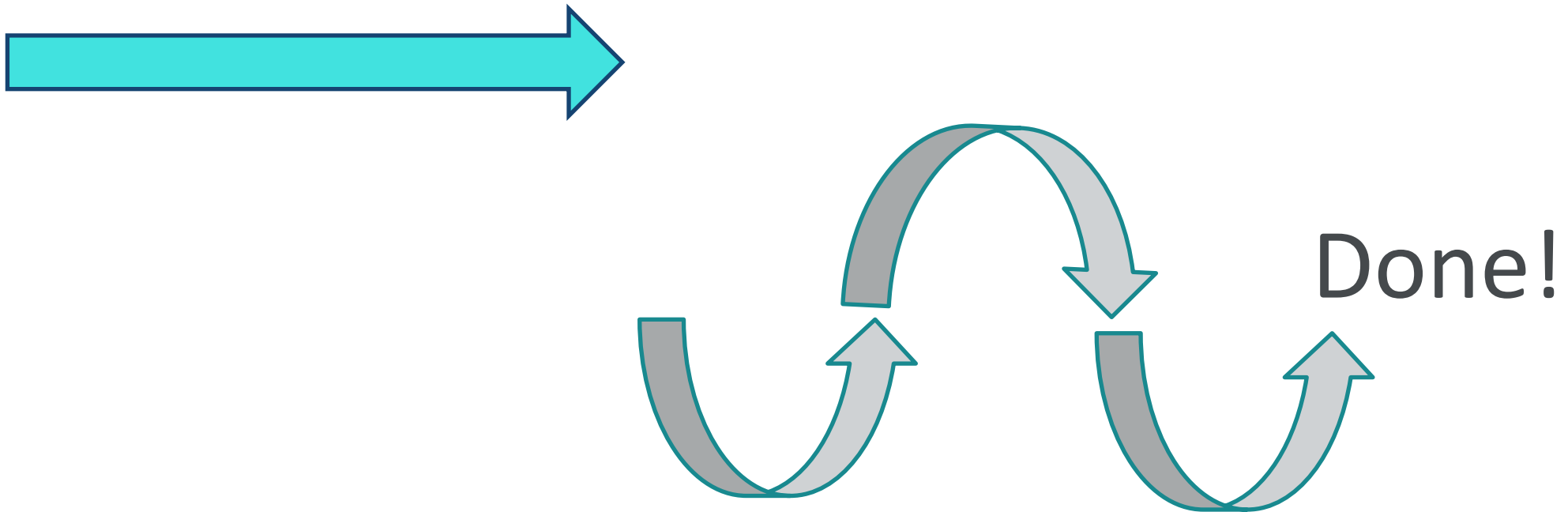
Pre-Build Event

# THIS IS WHAT HAPPENS – PRE-BUILD EVENTS



# THIS IS WHAT HAPPENS – POST-BUILD EVENTS

Post-build event is very straight-forward.



Making build events portable

# PORTABLE SCRIPTS

- XSLT executable
  - » If possible put in a common, well-known location
  - » Set an environment variable
  - » Otherwise, always use an absolute path
- Scripts
  - » Do not include them in a project. Place them in a common library
  - » Keep them in your Sandbox and your repository
  - » Always name the script index.bat

Lessons learned



# PORTABLE SCRIPTS

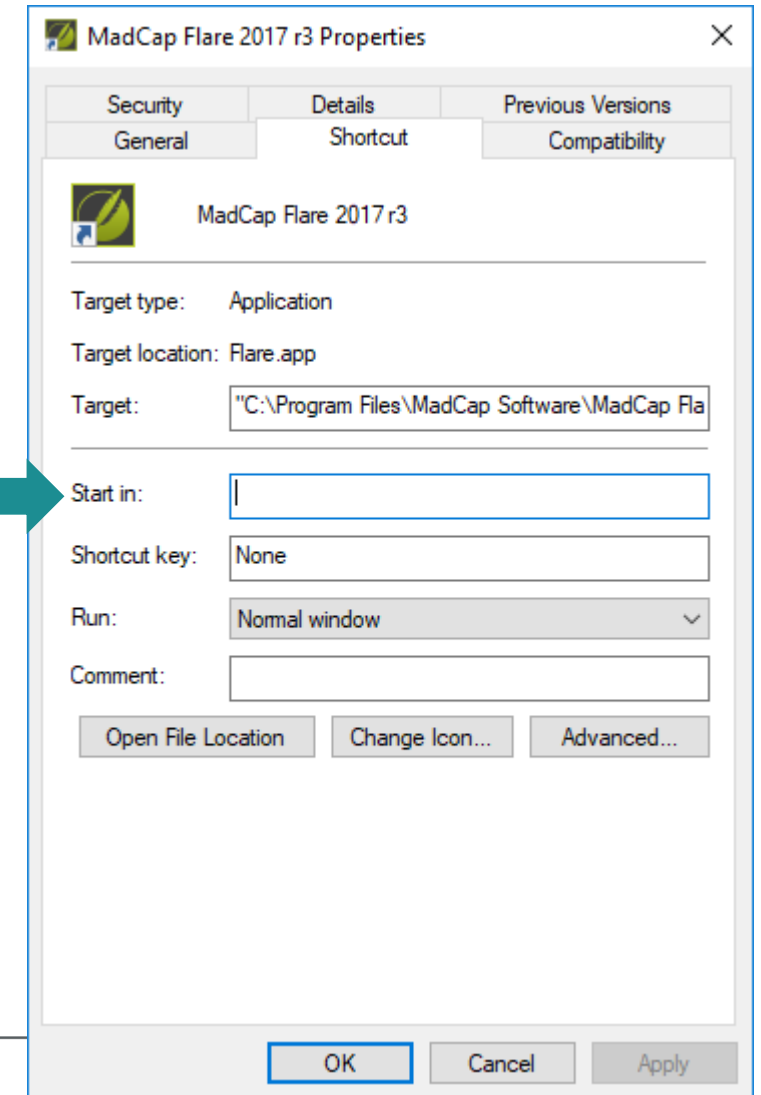
- Flare doesn't start where you think it does
  - » Build events traverse Windows directories. You need the proper starting location.
  - » Spent a lot of time chasing down errors based on file locations
  - » Discovered that the context for a build event is the location of the executable with which you started Flare

# FLARE “STARTS IN” WHERE?

- Build events begin traversing the Windows directory at the place the application is instantiated.
  - » Probably
    - Desktop, usually
    - Taskbar, sometimes
    - Flare directory, occasionally
  - » NOT
    - Project location
    - Script location
    - XSLT location

# FLARE “STARTS IN” – HOW DO I SOLVE THIS?

- Set a “Starts in” target in the short-cut properties (right-click)
- Advantages
  - » Um....
- Disadvantages
  - » Doesn't allow you to store build events in multiple locations
  - » May require “Administrator” rights on your machine
  - » Feels kludgy (F7).



# FLARE “STARTS IN” – HOW DO I SOLVE THIS?

- Begin every build event with a Change Directory
  - » `cd C:\Users\rdavis\Desktop\Sandbox\scripts\ConvertUnits\`
- Advantages
  - » Allows you to put scripts anywhere.
  - » Doesn't require “Administrator” rights on your machine
  - » Absolutely reliable
- Disadvantages
  - » Remember to do it
  - » Confusing for less senior writers

# DON'T MAKE THE SAME MISTAKES I'VE MADE

- No spaces in any path
  - » Sandbox name
  - » Project name
  - » Target name
- No special characters in the path
  - » Spaces
  - » Slashes
  - » TM ® ©
  - » Extended character set – á ê ç ã ñ

# DON'T MAKE THE SAME MISTAKES I'VE MADE

- Use an XML / XSL editor
  - » I used Notepad and I made a lot of errors
- DOS help is actually really helpful!
- In Flare, there is no error handling for build events
  - » Any error torpedoed the build event, but the build moves along.
- Build Log – Build event errors are
  - » 10143 (2017)
  - » 10157 (2018 - 2020)

# WHAT DO I NEED TO MAKE THIS WORK?

- XSLT – Extensible Stylesheet Language Transformer
  - » Run from DOS command line
  - » XSL 2.0 capable
- Examples
  - » Apache Xalan
  - » Saxon
  - » ~~MSXSL~~
    - XSL 1.0
    - No longer supported by Microsoft.

# WHAT AM I USING?

- XSL Transformer
  - » AltovaXML 2008 – a free to use, free to distribute XSLT.
  - » Small footprint. Single executable that can live anywhere.
  - » Very versatile.
  - » No longer supported by Altova. Difficult to find.
- XSL Editor



# OTHER BUILD EVENTS

- Add scripts

Like add metadata, but adds pre-written JavaScript to a page and alters an existing node to run the script

- Encode/Decode

Convert any character from one byte to multiple bytes (a = 1221), and back

- Judgement Day

Writes and executes another batch file

- Convert redlines

Convert redlines to conditional text

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