



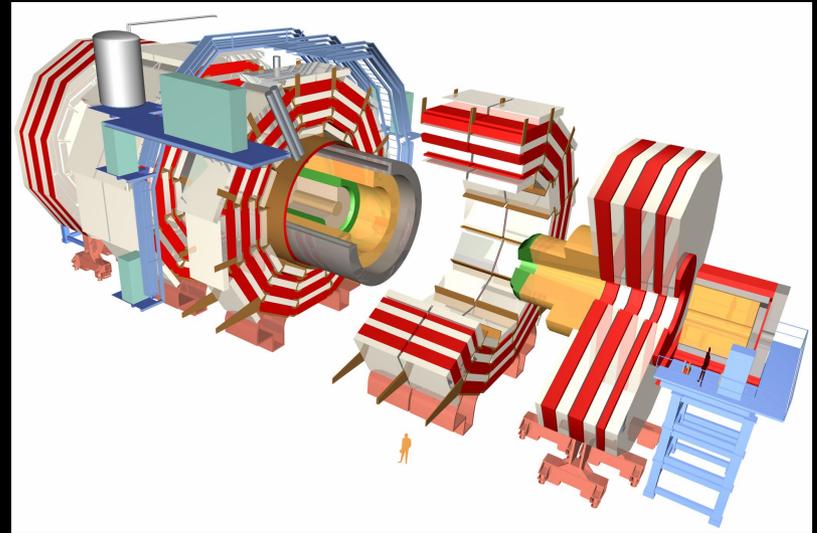
Deploying BRM Displays



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The CMS Detector

- **Compact** – Much smaller than ATLAS.
- **Muon** – Specializes in detecting muons.
- **Solenoid** – Uses a solenoid in order to create a uniform magnetic field.



Beam Radiation and Monitoring

- BCM1 – Conditions at Interaction Point.
- BCM2 – Outside the tracker.
- BSC – Scintillators for general rate data.
- PLT – Pixel Luminosity Telescope
- RADMON – Placed all around CMS.
- Passives – Map the radiation field.

BRM Displays

- Purpose:
 - Know if beam conditions are too unstable for continued operation.
 - Know if it is safe to turn on CMS in the first place.
 - Prevent hole in LHC's conditions monitoring.



My Project

- Goal: Deploy BRM displays with Java Web Start
- Means: ANT War Task
- Challenges: Bug in Task library; security issues
- Current Status: Not complete, but close

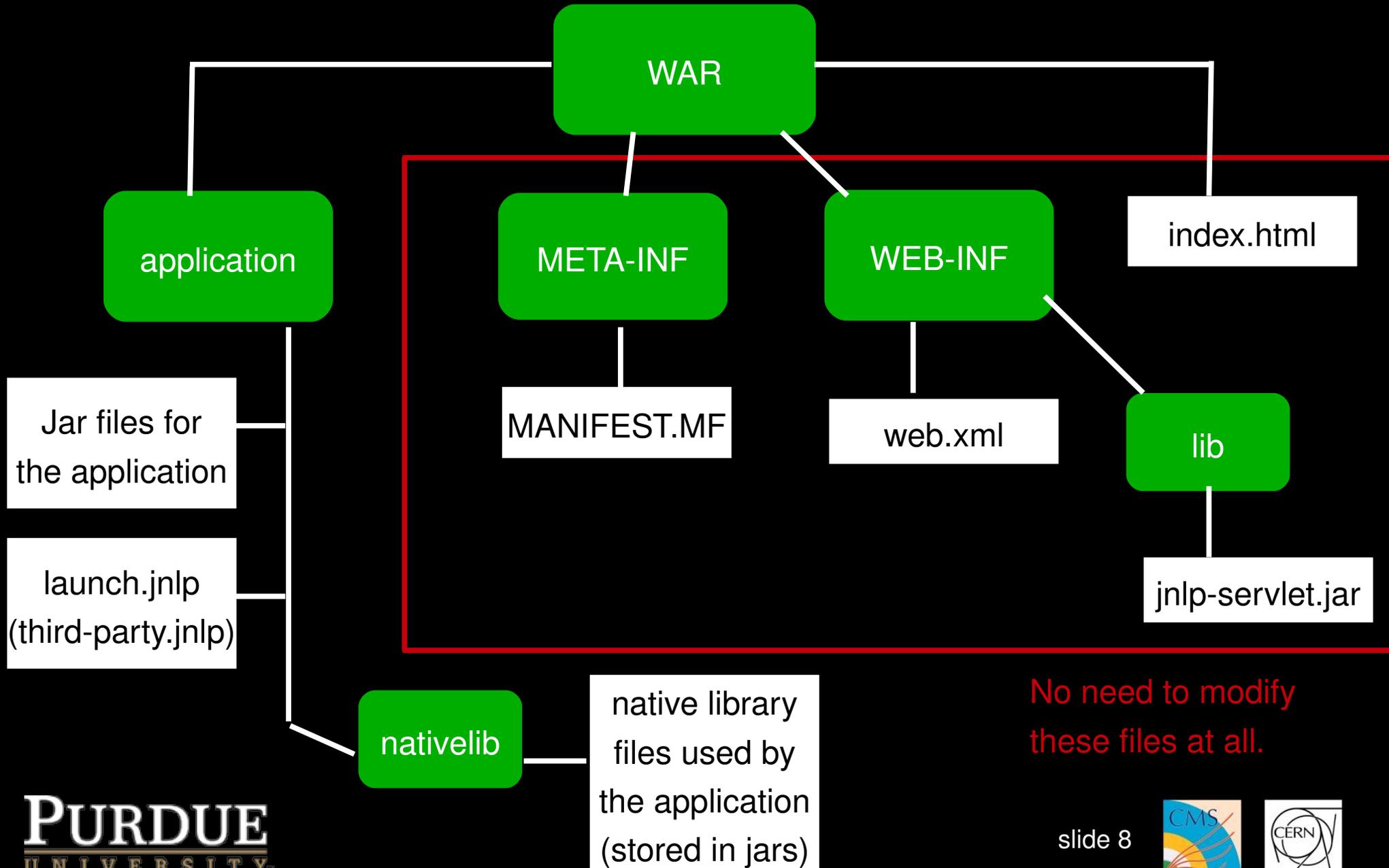
ANT – the Java build tool

- Why ANT?
 - Many Java classes and XML files underpin the BRM display application.
 - It's an efficient way to work with all those files.
- ANT provides useful commands for:
 - creating, copying, and moving files and directories
 - automating the creation of an archive file

ANT Web Start Task

- Creates a war (Web ARchive) file.
 - Organizes or creates libraries, XML files, and JNLP file.
 - No need to fully understand Java Web Start.
- Programmer Inputs
 - libraries (Jar files)
 - Main class of app.
 - keypass (Jar signing)
 - deployment website
- ANT Outputs
 - war file, ready to deploy

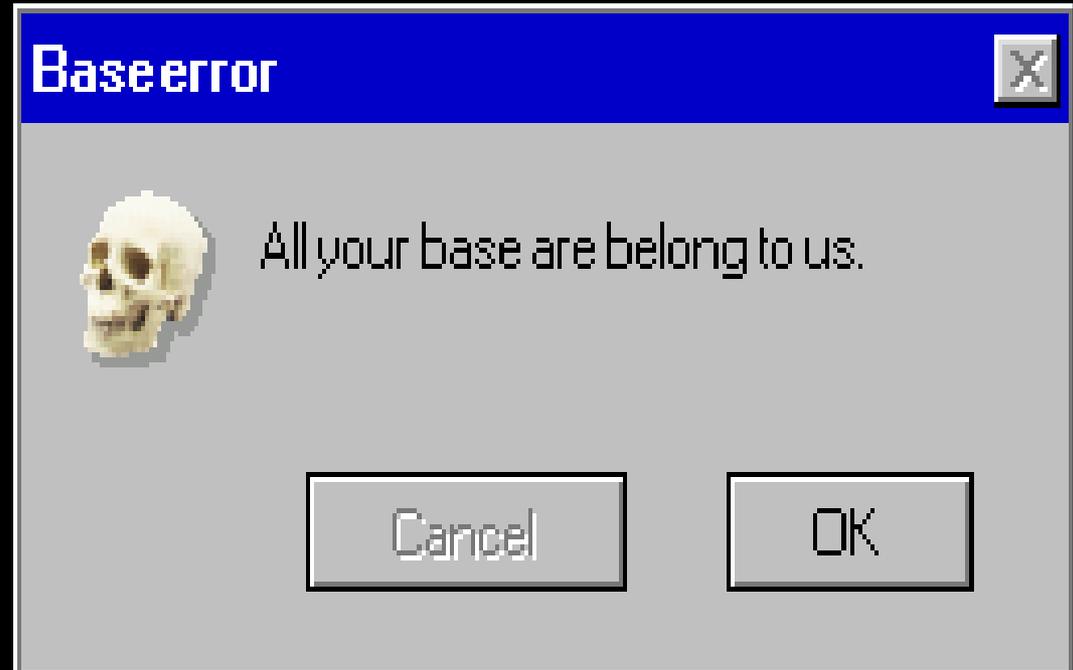
WAR file layout



No need to modify these files at all.

Challenges and Errors

- Bug in ANT Web Start Task.
- finding the correct “keypass” to use.
- doubly-signed jars
- Modifying launch.jnlp file



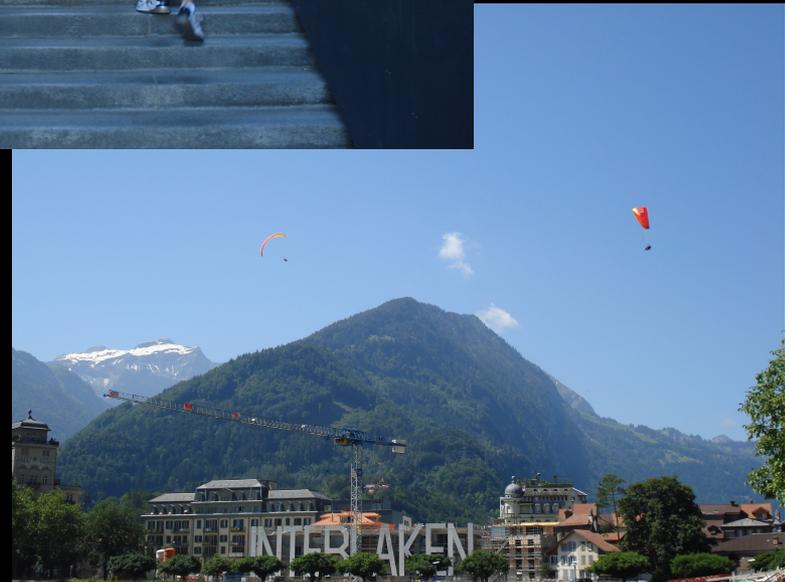
Current Status

- Initial component of the application loads correctly.
- No displays launch
 - Several different errors, depending on the display chosen.
- Next Steps
 - Research errors given by the Java console.
 - Check if Java Web Start is able to find all the necessary classes to run the application.

Acknowledgements

- Jose Lazo-Flores (Tennessee)
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Trips in Switzerland



What's in a name?

- Why does 65% of my family have 'J' names?
- Judeo-Christian culture
- Transliterating Hebrew
 - Yod Heh Vav Heh -> Yahweh -> Jehovah
 - Yah -> Je or Jo
- Joshua – Yah(weh) is salvation.
- Jeremiah – Yah(weh) has uplifted.