A Python distribution for Astronomy

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Background

- Astronomers mainly using their own 20-30 year old platform (IRAF)
  - Based on its own Fortran-like programming language
  - Limited batch scripting language (no subroutines within a file!)
  - Very self contained

- STScI PyRAF
  - Bridge to using Python, NumPy etc.
  - **Problem**: suddenly have 20+ dependencies to install
    - Python, NumPy, Matplotlib, STScI Python, BLAS, Tk etc. (plus IRAF)
    - Similar problem to other fields, but with a number of different tools
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AURA 'Unified Release'

- Collaboration between STScI and Gemini, two leading public observatories, run by AURA.
- Will provide a self-contained bundle of our user software and dependencies
  - cf. Sage, PythonXY, EPD.
- Past 1-2 years
  - Defining the project and securing resources to work on it in 2010
  - Technical discussion at SciPy
  - Maintaining Python installations in-house
- Status
  - Top-level requirements fixed recently
  - Beginning design and implementation
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Strategy

• Initial support for Linux and MacOS X
  – Self-contained binary and source distribution
  – Core system plus some upgradeable add-on components
  – Start off with our key dependencies and add more as we progress
  – Can be installed without administrative privileges
  – BASH build scripts
  – Considering Sage/SPD packages with a few enhancements
    • Minimal dependency management
• Plan to support Windows later
  – Time-frame TBC
  – Will require a different approach
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Strategy

- Common testing/integration framework
  - Automatically grab contributors' latest code (plus some dependencies) from SVN and test everything together on several OSs.
  - Based on STScI's Pandokia test system
    https://svn.stsci.edu/trac/ssb/etal/wiki/WikiStart
Alright, you talked me into it