Review of UPS

- UPS stands for UNIX Product Support.
  - It has been the core of our UNIX Product Support strategy for the past 4-5 years.
  - Basic concept is that user executes setup and unsetup commands that invoke csh/sh scripts which modify the user's environment to make the product available/unavailable.
  - Information about products (flavors, version, current instance, dependencies, etc) kept in ASCII database(s). Multiple databases work like the UNIX PATH variable.
- UPS is only portion of the Product Support Structure.
  - UPD: UNIX Product Distribution
  - UPP: UNIX Product Pull
  - UPC: UNIX Product Census
  - Login environment scripts

Evolution of UPS

- UPS Family has evolved and will continue to involve based on:
  - The introduction of distributed file system technology - AFS / DFS.
  - Increased use of UNIX in a variety of situations (Data Acquisition, Astrophysics, Central General Purpose, etc) resulting in new requirements.

Vision of AFS and Product Support

- Provide site wide product repository (in UPS format).
- Make available all Computing Division supported products.
- Provide for all supported UNIX platforms.
- Use replicated volumes to provide high reliability and high availability.
- Use distributed file servers which contain read-only replicates to localize network traffic.

Advantages of AFS Product Support Plan

- Reduces load on local system administrators by eliminating or reducing product administration.
- User's are more likely to have access to current product instance.
- There will be more consistent product availability across various clusters.
- Local system administrators maintain control over current instance of selected products by maintaining local UPS database without incurring major product maintenance load.
- Reduced load on product maintainers as less product installs are required.

Issues and Solutions

- UPS product installs procedures not designed with AFS in mind.
  - Developing detailed product install guide.
  - Developing multiple strategies for releasing products (weekly schedule, e-mail requests, page on-call person, possible system to allow product providers to release products themselves).
- Products not designed with AFS in mind. AFS adds read-only volumes and makes products available to a large group of systems (instead of to local work group clusters).
  - Re-evaluate product designs. We are creating a product checklist to determine potential problems.
  - Possible modifications to ups tailor to support different classes of product tailoring.

Issues and Solutions (Cont)

- Serving products site wide requires making available the union of all customers requests. This results in a variety of flavors of the same product instance.
  - Enhancing UPS (in v3_3) to include Extended Flavors feature. This will allow the user to automatically setup the product instance that is right for them.
- Accessing products both through AFS and local UPS databases adds some complications.
  - v3_0 of UPS added significantly better multiple database support. v3_3 adds increased support.

Current Status of UPS Family

- UPS
  - Currently in its third major release (ups v3_2a).
  - Still some original design items not implemented.
  - Next minor release (ups v3_3) will contain some significant new features (extended flavors, better multiple database support).
- UPD
  - Currently in its second major release (ups v2_1).
  - Has not been modified for quite some time and meets basic needs.
  - Augmented recently by providing distribution through restricted anonymous ftp.
  - Many outstanding enhancement requests.
- UPP
  - Currently in its first major release (upp v1_0).
  - Beta release of its second major release (upp v2_0).
  - Major re-haul needed. May not fit well into AFS strategy.

Future Strategy

- Firmly committed to UPS concepts.
- Ready to start major re-design effort. Re-design will focus on 4th generation of ups (v4_0) but may also include issues related to other products.
- Areas to be addressed:
  - Revised handling of product dependencies. Need more capabilities and more flexibility for current capabilities.
  - New database format. Need to allow for easier extensibility so this design will last another 5 years.
  - Better reporting tools.
  - Hooks for distribution of product information (WWW interface?).
  - Examine issues regarding tailoring and configuring of products.
  - Examine the issue of product distribution.