CUMREC ’96

THE LEVERAGED SUPPORT MODEL

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In the beginning ......
- Computing was centralized
- Networks were simple
- End users had 'dumb' terminals

Support was easily accomplished from a centralized point
- All applications were on central resources
- Problems were "easily" determined & resolved
- Support resources were small (10% of the org)
& the living was easy......

Then ......
- IBM invented the PC
- Along came Apple
- TCP/IP
- Novell & LANs

Then ......
- Applications ran on PCs
- Users wanted to interconnect

Still ......
- Centralized computing existed .... and grew!

...... & grew!
The breakdown of centralized support

- Support resources grew & grew to 25% of the Central Computing Organization (CCO)

- User demand outpaced even this growth & users wanted to do more locally.

- The CCO began to ration support
  -- Supported Software Lists
  -- Supported Equipment Lists
  -- Limited Visits with Users

- & users grew dissatisfied with CCO's support.

Something had to be done!

1989-90
The Beginning of Distributed Support

- Instead of creating more of "us"...

- Why not create some of "them"...
  to provide support in the departments?
A new way....
Distributed Support Program

- Goals:
  - Increase quantity of support resource
  - Move it closer to users
- Methods:
  - Seed support in departments
  - Train support staff that grew "wild"
  - Create a network of computing support staff

Seeding support in departments....
Distributed Support Assistants (DSA) Program

- CCO hires DSAs & places in departments
- CCO trains DSAs like "one of our own"
- CCO trains supervisors of DSAs
- The Partnership......
  - Year 1: CCO picks up entire $s
  - Year 2: CCO & department equally share $s
  - Year 3 & beyond: department picks up entire $s

Seeding support in departments
Distributed Support Assistants (DSA) Program

- Cost
  - $350,000 over 5 years
  - 1.1 FTE per year of CCO staff
- Results
  - 26 positions created
  - 75 departments gained support
  - 100% success (all DSAs retained)
  - Increased support resources (26 became 70)
  - Small departments formed support consortiums
- Tangential results
  - Support developed even in non-participating units
Training support that grew “wild”
Tech Info for Excellent Support (TIES) Program

- Situation
  - Clerical staff took on technical duties
  - Professional staff became support providers
  - But there was no way to obtain skills to provide support
- Solution
  - CCO provided structured educational program to provide staff with computing skills

Training support staff that grew “wild”
Tech Info for Excellent Support (TIES) Program

- Free: training series (5 weeks, 1/2 day per week), house calls from CCO staff after training, & support software (Norton, etc.)
- Cost:
  - $80,000 in materials & software over 4 yrs
- Results
  - 186 staff completed TIES training series
  - 75% participation from IUB departments
  - Users received better support
- Tangential Results
  - Decline in phone calls to Support Center
  - Nature of calls: more complex, deeper questions

Creating a network of computing support staff
Partners in Support (PICS) Program

- Situation
  - Support not connected, coordinated, well-supported
  - Departments spending $6 on support tools (or not)
  - User support providers ( ISP) needed info from CCO
- Solution
  - CCO provides a forum for fostering:
    - Technical education
    - Information sharing
    - ISP networking
    - Provides Netware server with support tools
Creating a network of computing support staff
Partners in Support (PICS) Program

NOT A USER GROUP -- A TRUE PARTNERSHIP!

- PICS:
  - Directory of services & service providers
  - Mailing list, announcements, information, job openings, vendor news, etc...
  - Workshops on technology issues
  - Forums with conferencing formats
  - Server filled with goodies!
  - Support utilities for Intel, Mac, Networks
  - Support CDs from various electronic publishers
  - Software distribution

Creating a network of computing support staff
Partners in Support (PICS) Program

- Cost:
  - $80,000 in supplies & expenses over 2 yrs
  - 1/2 FTE/year of CCO staff

- Results
  - Users get better support
  - LSPs recognize, know, & work with each other
  - CCO becomes valued resource for LSPs
  - LSPs satisfaction with CCO increased

- Tangential results
  - CCO gets out of end-user support business
  - Departments invest in human resources rather than tools

Then we were finished...........

Yeah, right.......
Where we were in 1994....

- 200 departments on IUB campus
- 150+ LSPs on the IUB campus
- 6 regional campus computing centers
- Half-million $ investment made over 5 yrs
- CCO staff still at 25% of overall resource

Still, the demand for support grew....

State of the environment

Observations

- Computing use continues to grow
  - Centrally served computing
  - PC computing on desktops
  - Local workgroup computing
- Computing use is distributed
  - Client/server applications
  - LAN applications - file sharing, application launching, etc.
- Computing Support is distributed & growing
  - LSPs exist, covering 95% of IUB campus
  - New LSP positions open weekly
- Computing & computing support are linked
State of the environment
Opinions

- Growth & demand for support...
  - Is for both central & local resources
  - Is too much for CCO alone
- Users embrace technology...
  - User responsibility an increasing factor
  - Integration into teaching, research, administration
  - Part of everyday life

And now for something
NOT
completely different.....
The Leveraged Support Model

- Goal
  - Facilitate growing demand for computing support
- Elements
  - Central Computing Organization (CCO)
  - Local Support Providers (LSPs)
  - Users
- Vision
  - Deliver support directly to demand
  - Support abundance rather than rationed
Principles

• Empower!
  - User to support themselves
  - LSPs to provide support to their users
  - CCO staff to provide education & training
to LSPs & users for further empowerment

Roles of the user, LSP, CCO

• Users
  - Basic knowledge & skills in majority of tools used regularly

• LSPs
  - Advanced knowledge & skills to support majority of their users

• CCO provides...
  - Infrastructure
  - Advanced & specialized support
  - Support to LSPs
  - Knowledge bases
  - Problem tracking & resolution
  - Information resources
  - Tools
  - LSP & user training
  - Technology assessment

Roles of the Central Computing Organization

• Detailed baseline services
• Computing support infrastructure

• Targeted application/technology area support
  - Data management support
  - Statistical & mathematical computing
  - Unix workstation/server systems
  - Textual processing
  - Instructional technology
  - LAN management
  - Student computing facilities & support (tech fee funded)
Roles of the CCO
When to charge for what you do....

- When the CCO provides service or support ....
  - That is an LSP responsibility
  - For a user when the user could support themselves if they employed tools & education opportunities provided by CCO
  - That is not defined as a CCO, LSP, nor user responsibility

Enhancing distributed support
The next level of the Distributed Support Program

- Existing programs were:
  - Ending.... DSA “seeding” was accomplished
  - Not meeting all needs....
    TIES training needed to do more
  - Successful & new users were found.... PICS demands for utilities & tools grew & software distribution became necessary

Initiative was needed!
Enhancing Distributed Support Initiative (EDSI)

A 3-yr $350,000 initiative (1994-97) to bring about Leveraged Support Environment at Indiana University

- Components:
  - Support delivery automation knowledge base & problem tracking/resolution system
  - Education/certification of LSPs
  - Growth of PICS tools & workshops
  - Software information & distribution to help users & LSPs view aspects of wide variety of products covered under university license

Enhancing Distributed Support Initiative (EDSI)

Support delivery automation

- The KB (Knowledge Base)
  - A Web interface linked to a database of support info, accessible by a search engine: e.g., call it DESHelp online
    http://www.indiana.edu/~achelp/
  - To answer the majority of users & LSPs
  - To report problems that the KB doesn’t yet have solutions
  - Replaces CCO helpdesk (phone, walk-in, e-mail) functions

- Cost:
  - $150,000 over 3 yrs
  - Conversion of direct support resources
  - Care & feed of KB (2 FTE/yr to 4 FTE now to 7 by ’97)

Enhancing Distributed Support Initiative (EDSI)

Support delivery automation

- Progress
  - 8,500 hits/month (IUB, other IU campuses, & other institutions around the world)
  - Even initial form is primary support mechanism for some smaller institutions
  - Nearly all LSPs use as their first step to seek solutions
  - 15% user community making use as their first stop (only in 3rd month of service to end users)
  - Web-based tools allow growth to be met
The Leveraged Support Model

Enhancing Distributed Support Initiative (EDSI) Education & certification

- TIES needed to adapt & be enriched
- Perceived need to verify learning
- Designed for LSPs & other computing support professionals
- In our own best interest — offered at no charge

- Costs:
  - $150,000 over 3 yrs + 3 FTE staff time per yr

- Goals:
  - To raise the level of technical expertise in LSPs
  - To provide a way for LSPs to be acknowledged for their expertise
  - To offer professional growth & career development
  - To provide a solid technical infrastructure

Components:
- Participants must be ready — preparing
- Intensive 2-3 day hands-on sessions, high teacher/student ratio
- Labs, quizzes, homework, & scheduled final testing

Available now:
- Supporting PC Hardware
- Supporting DOS & Windows
- LAN Administration (2 levels)
- Supporting the Macintosh
- Unix Administration

Sponsored by our partnership with & input from:

Sybase
Powerbuilder
Windows NT
Windows 95
FoxPro/Programmers

The Leveraged Support Model

Enhancing Distributed Support Initiative (EDSI) Education & certification

- Progress:
  - Since Dec '92, over 400 certifications
  - High rate of success of participants achieving certification
  - Evaluation ratings from participants extremely high

- Where we’re headed — leveraged delivery format
  - Via the Web: instructional modules, tutorials, quizzes, checklists & info on how to prepare & what to expect
  - http://www.buffalost.edu/~msup
  - Assigned mentors
  - Computer-based tutorials
  - Interactive video broadcasts & taped broadcasts
Enhancing Distributed Support Initiative (EDSI)

**PICS tools & workshops**

- Expanding & adapting this successful program
  - PICS server beefed up: more tools, utilities, power...
  - PICS workshops to preview new technologies, share CCD strategies & objectives, facilitate peer sharing
  - Retreats with LSPs to:
    - Share directions & receive feedback/input
    - Identify "to-do" lists to fine tune services for LSPs
  - LSP advisory board
    - "Take over" an existing forum
    - Monthly meetings to share info & get direction

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**Enhancing Distributed Support Initiative (EDSI)**

**PICS tools & workshops**

- New things:
  - Delivering computer-based training
  - Integration with SoftServe
  - Working to provide facility for LSPs to deliver training to their users

- **PICS on the Web:**
  [http://www.indiana.edu/~acsdc/profpics.html](http://www.indiana.edu/~acsdc/profpics.html)

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Enhancing Distributed Support Initiative (EDSI)

**Software information matrix & distribution**

- Facilitates abundant support for software
- Via the Web, provides users with information on:
  - Software products (spreadsheets, databases, word processors, statistical & mathematical, etc....)
  - Functionality of the product (USS staff opinion)
  - Availability & location of electronic Help resources
  - Availability of the product (where to buy it)
  - Local support & training for the product
Enhancing Distributed Support Initiative (EDSI)
Software information matrix & distribution

- Support types:
  - Fully supported by CCO
  - Supported by other service providers at IU system
  - Supported via information base accessed by users provided as part of CCO infrastructure
  - Users work directly with vendor (free or for charge)

- Software Matrix on the Web:
  - [http://www.indiana.edu/swinfo/](http://www.indiana.edu/swinfo/)

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Enhancing Distributed Support Initiative (EDSI)
Software information matrix & distribution

- SoftServe
  - A Macware server with application installation utility for users to get on their PCs & Macs, or to make disks
  - Campus or university site license:
    - Networking (VPN, Presentation, Workgroup, etc.)
    - Communications
    - Virus detection/protection

- Possibilities:
  - Selling software via SoftServe
  - Providing Web-based distribution

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Check out what we're doing at these Web pages

- UCS help online: [http://www.indiana.edu/~mchelp/](http://www.indiana.edu/~mchelp/)
- EdCert: [http://www.indiana.edu/~mchelp/](http://www.indiana.edu/~mchelp/)
- PICS: [http://www.indiana.edu/~mchelp/](http://www.indiana.edu/~mchelp/)
- Software info: [http://www.indiana.edu/~swinfo/](http://www.indiana.edu/~swinfo/)

All are offered at no charge to users & LSPs
Enhancing Distributed Support Initiative (EDSI) Problems -- how the sewers backed up in Utopia

- Distributed support is expensive to the institution
  - Loss of economies of scale/departments become islands
  - Lack of consistency in job descriptions & pay
  - Demand is outracing supply for talented staff
  - Drives up cost of labor; competition is stiff
  - CCO is losing talented staff to departments who can pay more (no inter-organizational equity concerns)
  - CCO takes a new place on the talent "food chain"
  - Solutions are not easy, but are being sought...

- Traditional services -- pulled too fast
  - Fight fires -- or -- build the sprinkler system?
  - Dissatisfaction as key services for users shrank
  - Re-investment needed for traditional support ($250,000 in staff one time, over next 1.5 yrs)

- New Web-based services are nice but... if you don't have a Netscape-capable machine you can't play the new game
  - At IUB, we estimate $3 million is needed to bring all faculty & academic staff up to 486/Win or better. Better than we thought, but still a major investment.

- Departments need to better leverage their capital resources

- Institution may want to consider computing part of human resource expenses, much like benefits ($1000 FTE/year)
Now are we done????
Only for today.
Tomorrow beckons....

What's next?
Distributed development & data management

- Doing the same for information management
  - Distributed development support program already in gear
  - Port of departmental developers — like DSA
  - Education in tools/methods — like TIES/EdCor
  - Developers resource center — like EICS
- Keep a watchful eye on:
  - Future of Client/Server
  - Web-based applications
  - New “cheap & skinny” PCs
- Possibility of re-centralization of computing
  - Decentralized rather than distributed

Questions???
See us at our poster session for details

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