VM-Based WebServer User Experience

Session M28

VM & VSE Technical Conference

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AT&T Global Network Services

(formerly IBM Global Network)

AT&T Global Network Services

- Part of AT&T Business Services

- Integrates, manages and delivers network offerings
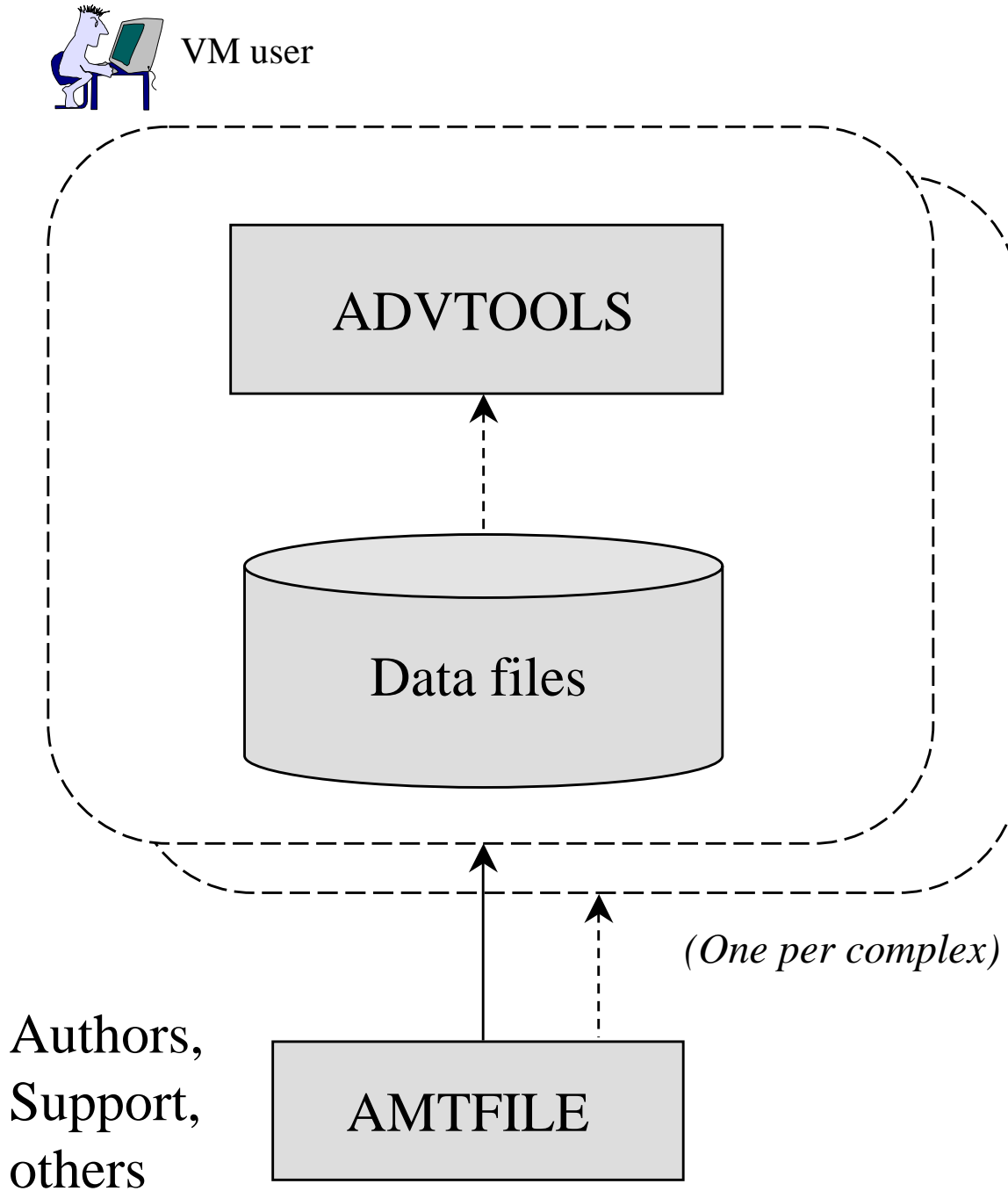
- World-wide presence

Environment (1996)

- Application: ADVTOOLS
- VM-based sales-support tool
- Allows direct access to documents and applications by users world-wide
- 10,000+ documents and files
  - Legacy: Script, GML, "flat", BookMaster, LIST3820, etc...
  - PC: FreeLance, AmiPro, etc...
- 30+ different applications
- 25,000 users per month

Environment ...

- Replicated on 4 major VM sites
  - Tampa, FL (IGN HQ system)
  - Columbus, OH (IGN HQ system)
  - Boulder, CO (IBM US HONE)
  - Zoetemeer, Neth (IBM EMEA HONE)
  - Additional sites were requesting access

- Support sub-systems run on VM
  - File processing and distribution
  - Ownership, usage info, ISO 900x
  - Known as "AMTFILE"

VM-only environment

VM user

ADVTOOLS

Data files

(One per complex)

Authors,
Support,
others

AMTFILE

Challenge

- Make ADVTOOLS available on company intranet platform
  - Functionally compatible
  - Automated support activities
  - Update to one platform must be reflected in the other
  - Support legacy-format documents
- No increase in headcount
- Maintain VM platform, too!
- Original estimate: 12 months

Related Efforts

- ADVTOOLS menu builder
  - Screen panels for VM platform
  - HTML files for intranet platform

- Development of B2H
  - Convert Script, GML, "flat" and BookMaster files to HTML
  - Runs on multiple platforms
    - VM (standalone or as pipeline filter)
    - MVS (standalone or as pipeline filter)
    - AIX, Linux, OS/2, Windows 95 & NT
  - Available to others:
    - Customers: IBM's VM download page (http://www.vm.ibm.com/download)
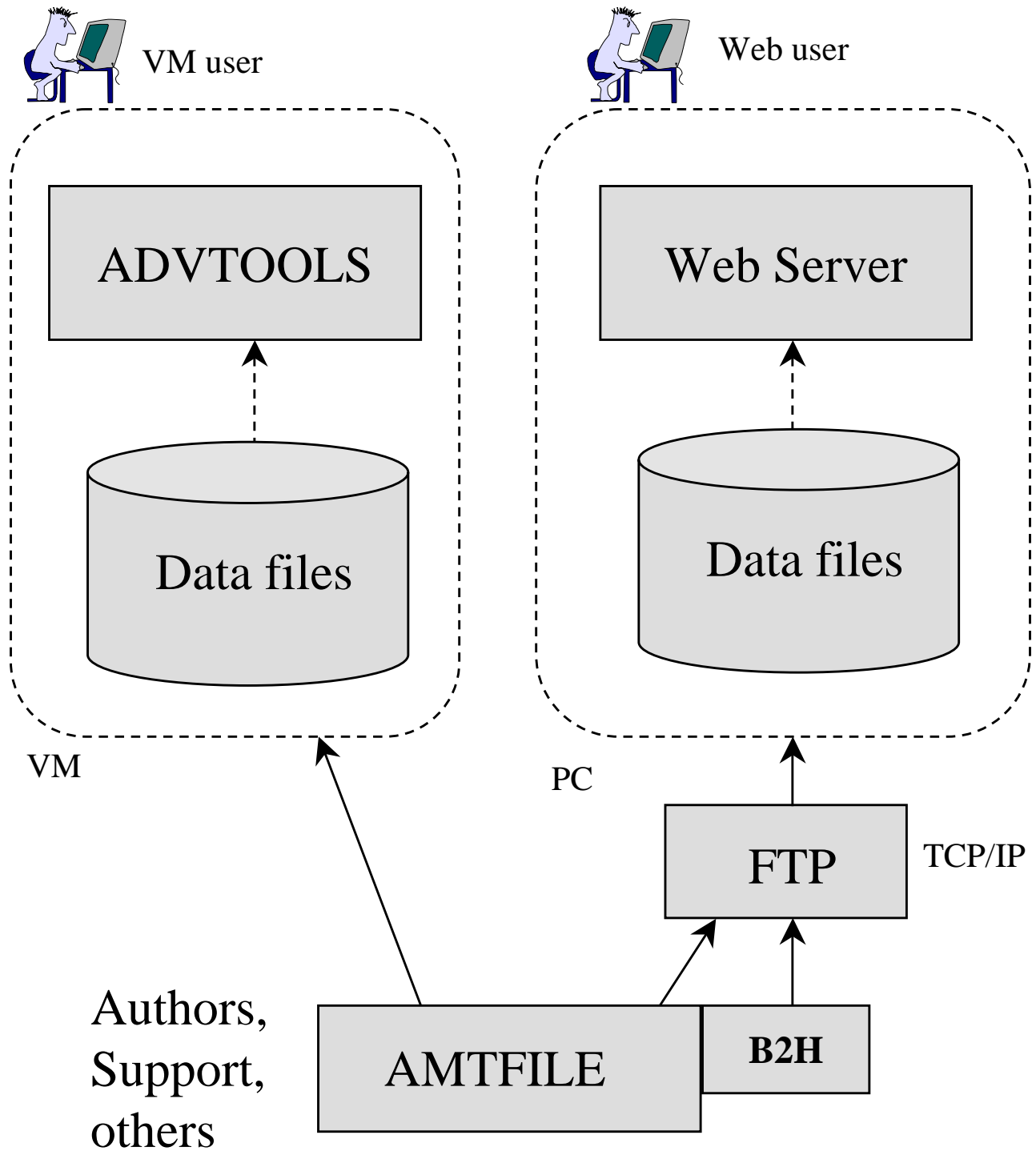   - IBMers: VMTOOLS disk

Selecting a server

- Initial choice: PC-based
  - "What everyone was doing"
  - Hardware was available
- Operating System: OS/2
  - Already using for desktop
  - No experience in AIX, windows
  - If not OS/2, one more thing to learn
- Server software: IBM's ICS

PC server concerns

- Duplicate versions of files

- Rewrite of existing function

- Physical support & maintenance of the server itself

- Amount of data updated daily (>50MB)

PC-based server

VM user

Web user

ADVTOOLS

Web Server

Data files

Data files

VM

PC

FTP

TCP/IP

Authors,
Support,
others

AMTFILE

B2H

PC-based server

- File handling a major problem
  - Different format on each platform
  - File naming conventions
    VM: 8 x 8   PC: 8.3
  - Reliability of VM-initiated,
    <u>automated</u> FTP upload/download

- Rewriting existing function
  more difficult than first forecast
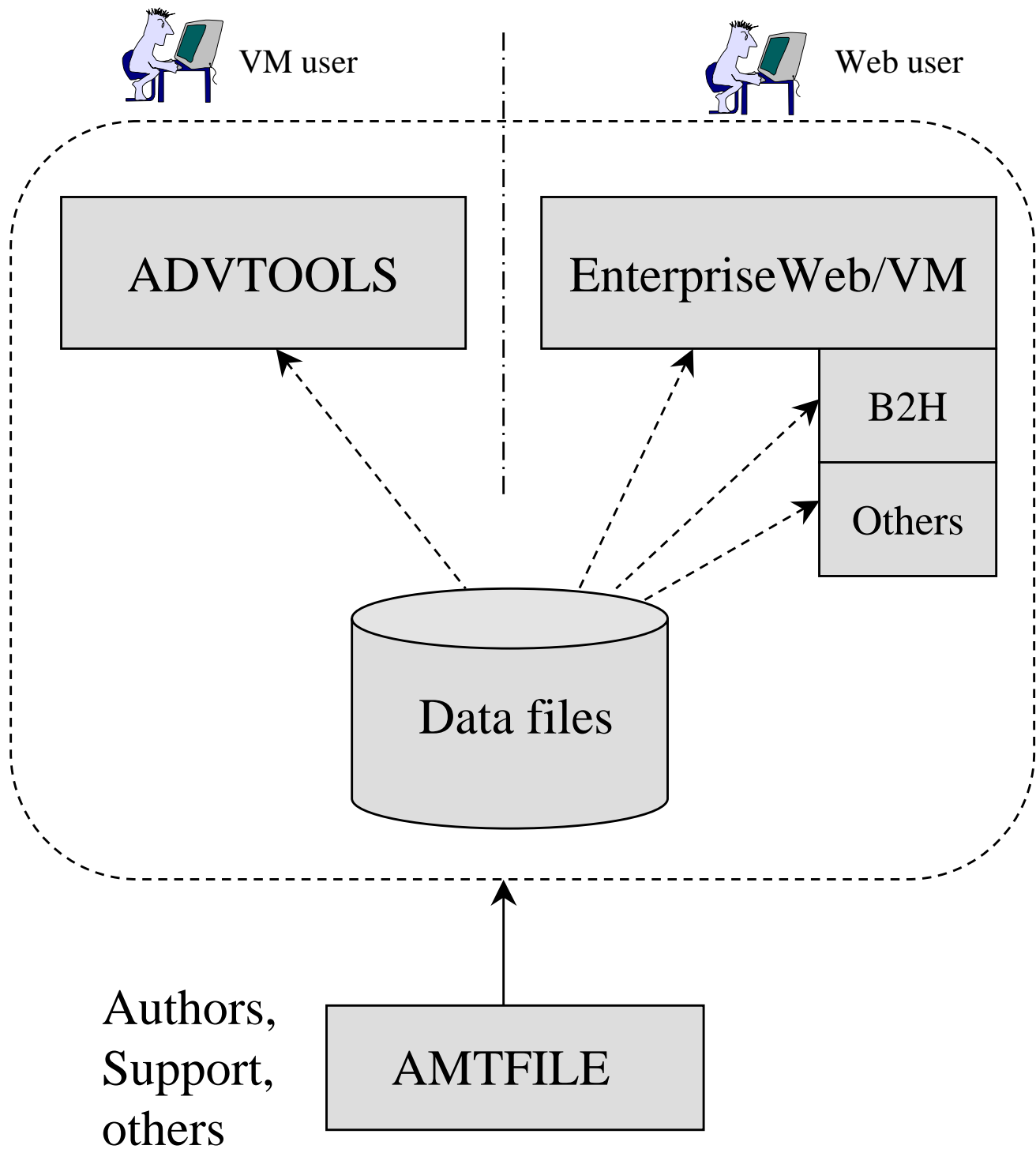
- After 6 months: prognosis poor

EnterpriseWeb/VM

- "Discovered" at SHARE in New Orleans, July 1996

- Addressed our major problems:
  - Directly reads CMS mini-disks
  - Used REXX and Pipelines
  - Able to use code already written for VM ADVTOOLS

- CGIs and media maps are simple CMS Pipeline filters

2 months after install

- VM and intranet shared same files
  - No synchronization required
- Mature function by re-use of code
  - Search Engine
- Dynamic file conversion to HTML
  - B2H as media map filter
- Workstation files treated as normal binary objects
- 90+% of available files supported
- Pilot test under way

VM/Web environment

VM user

Web user

ADVTOOLS

EnterpriseWeb/VM

B2H

Others

Data files

Authors,
Support,
others

AMTFILE

Current status

- Full production
- Minimal routine support effort
- Migrated to Sterling's VM:WebServer product
- Working on non-server-related items
  - Java and JavaScript
  - Page design review
  - Online forms
  - Migration of VM-specific tools (e.g... ISPF)
- Leveraging for new applications

VM web servers: Pro

- Direct access to existing VM files
- Leverages investment in existing programs and data
- Leverages investment in existing skills
- Scalability
- Uses mainframe procedures already in place for:
  - Security (e.g. RACF)
  - System support (e.g. VM, TCPIP, dasd allocation, hardware)
  - Operational support (e.g. 24x7, disaster backup, redundancy)

VM Web servers: Con

- Mainframe availability affects web site

- Duplicate filenames
  - On PC, duplicate files can be placed into unique directories
  - Aliasing doesn't really address this
  - Use of SFS/BFS can alleviate
  - Multiple "user sites" (~name)

Server selection

- Use mainframe server when:
  - Require significant direct access to mainframe data
  - Access to large amount of data
  - Reuse of existing programs
  - Leverage technical and people skills

- Use workstation server when:
  - Most transactions do not require mainframe data
  - Primarily "static" data served