

**WAVV 2007: Green Bay**

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# "Under 200 MIPS" Status Update

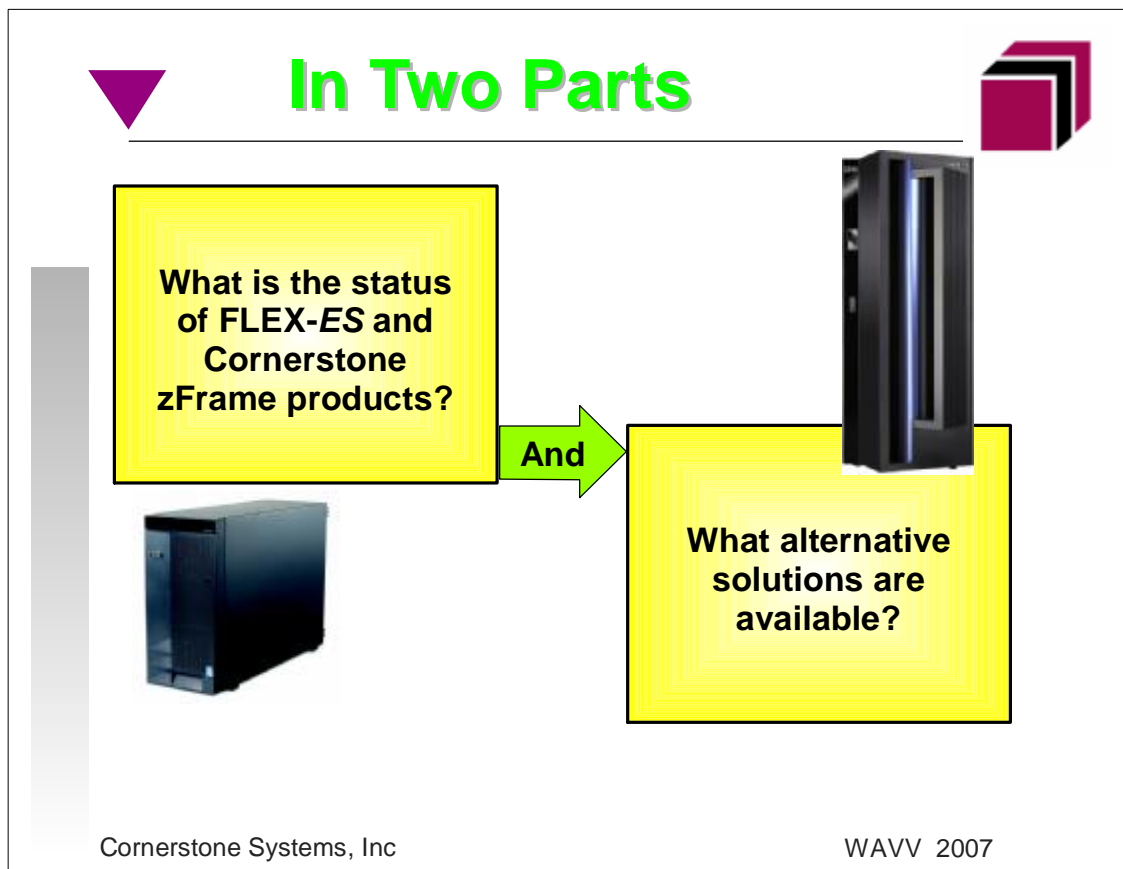
Mike Hammock  
Cornerstone Systems Inc.  
IBM zSeries Enablement Solutions  
[mhammock@csihome.com](mailto:mhammock@csihome.com)



▼ **Very quickly.....**



**This is *NOT* the presentation  
we had hoped to make.....**



## ▼ FLEX-ES - zFrame Update

- You have heard lots of rumors and guesses
- Just what is the current status and outlook?

The information in this presentation should not be considered as official statements from FSI or IBM. It is based on my knowledge of the situation as I understand it from an "informed outsider's" viewpoint.

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## ▼ What Happened ?



- Nov. 1, 2006:
  - ▶ Patent licensing agreement between IBM and Fundamental Software expired
  - ▶ IBM has not renewed the license
  - ▶ FSI stopped shipment of all new FLEX-**ES** licenses
    - Commercial and PWD
    - To avoid possible patent infringement

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## ▼ What Happened ?



- IBM also stopped issuing new software licenses for FLEX-**ES** systems
  - ▶ IBM has not been issueing new software license for existing/valid FLEX-**ES** systems/licenses
    - At least, we have not seen or gotten any new IBM licenses
- We'll see what this means for
  - ▶ Commercial FLEX/zFrame users
  - ▶ PWD FLEX/zDev users
- And look at some alternatives

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## ▼ Commercial Users



- Current zFrame users will continue to run and be supported
  - Commercial licenses do not "expire"
  - Cornerstone Systems and Fundamental Software are committed to provide continuing support to all our customers
    - (Keep your support agreements up-to-date)
- No new commercial FLEX-ES licenses
  - Lack of patent agreement prohibits new licenses
  - Apparently can not get IBM software even if we could get a FLEX-ES license

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## ▼ Commercial Alternatives



- What is available to small commercial zSeries architecture users?
  - ▶ Used hardware (z800, etc.)
    - Hardware maint and software can be costly
  - ▶ IBM z9 BC (Business Class)
    - Hardware and software "incentives" can make it very competitive in many multi-year comparisons
    - zCenter (FLEX-CUB) can ease the migration away from FLEX-ES

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## ▼ IBM PWD FLEX-ES Users



- FSI is not shipping any new PWD licenses
- PWD licenses expire 3 years from date of license
  - System stops working
- No renewals or extensions available

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## ▼ Alternatives for PWD Users



- What is available for developers?
  - Used systems
    - Latest System z features will not be available
    - Access to PWD provided software may be more difficult
  - Remote use of IBM system (Dallas)
    - Fee based, depending on requirements
    - Limited flexibility/capability
  - IBM z9 BC
    - Significant PWD discounts available
    - zCenter can help transition to z9

**Note:** Cornerstone is the only company with significant FLEX-ES experience who can sell z9 systems.

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## On the Horizon



- Will IBM and FSI resolve their issues and allow new FLEX-ES systems ?
  - ▶ Possible: but given other factors in the current environment, a complete (PWD and commercial) "resolution" is not especially likely in the near future.
- Will some other emulation based system or very low-cost hardware be made available, especially for PWDs?
  - ▶ Always subject to change, but at this time we know of no close-in plan in this direction.

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## Alternatives



*OK, so what are the  
(reasonable) alternatives for:*

- **Processor:** Used or z9 BC
- **Disk Storage:** DS6800 or "Shark"
- **Tape:** (real and virtual)

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## ▼ Processors: Commercial



- Used: MP3000, z800
  - Immediate and higher maintenance
  - Coarser capacity granularity (sw cost)
  - Full software pricing
  - But purchase price is "cheap"!
  - May be appropriate for limited lifetime systems
- New: z9 BC
  - More expensive on purchase price, but:
    - Hardware discounts frequently available
    - Very good software incentives may be available
    - Lower maintenance
  - May be lower TCO for 3 - 5 year timeframes
    - Every case/customer is different



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## ▼ Processors: PWD



- Used: z800
  - Immediate and higher maintenance
  - May not have desired z features
  - Special PWD SW pricing may be more difficult
    - Without special PWD pricing, SW costs would override any HW savings
- New: z9 BC
  - More expensive on purchase price, but:
    - Good PWD special pricing usually available
      - PWDs should contact their IBM BP for actual prices
    - Still more expensive than PWD FLEX-ES solutions, but 5 year lease may be more attractive than expected
  - All the latest z features are available



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## Disk Storage



- **Used:** Shark (ESS) or some OEM
  - ▶ Maintenance: consider "moving parts"
  - ▶ Performance: disks and processor
  - ▶ Size / heat / power requirements
  - ▶ Low purchase price
- **DS6800: (DS8000 for larger requirements)**
  - ▶ Initial unit is (relatively) expensive
    - But additional capacity relatively "cheap"
    - Some special discounts are available
  - ▶ Newer, faster disks, processor, channels (2 Gb FICON)
  - ▶ Rack mount: Very compact
  - ▶ Easy, hot-pluggable expansion



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## *But....*



- You probably knew all that....
- How about something new and useful, like:
  - ▶ How does a current FLEX-ES user migrate their current system to a z9+DS6800?
  - ▶ What does the FLEX-ES user (with SCSI tapes) do for tapes on the z9?
  - ▶ What is the best use of that former zFrame system with its' disks and tapes?

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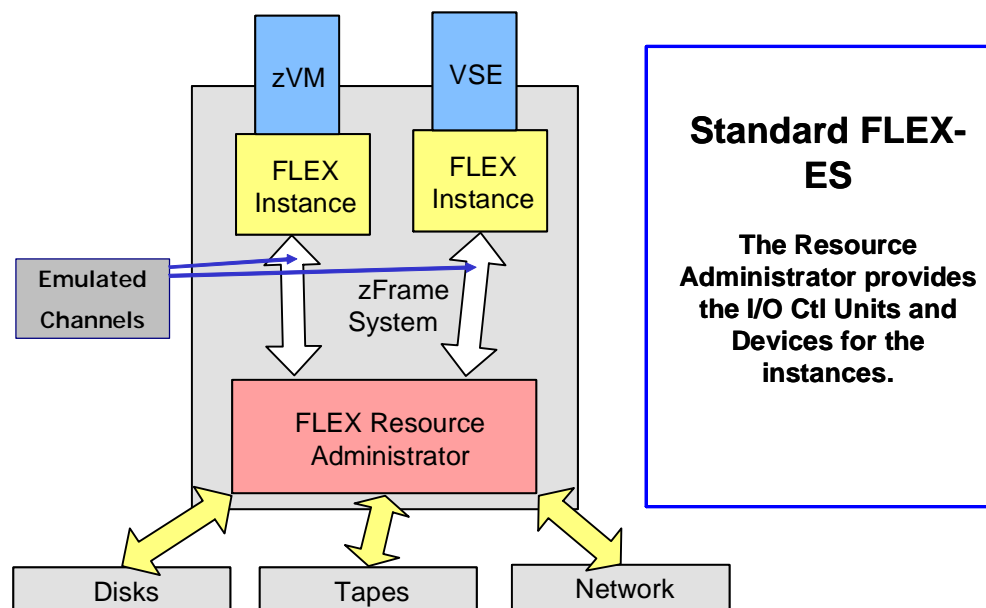
## Answer: zCenter



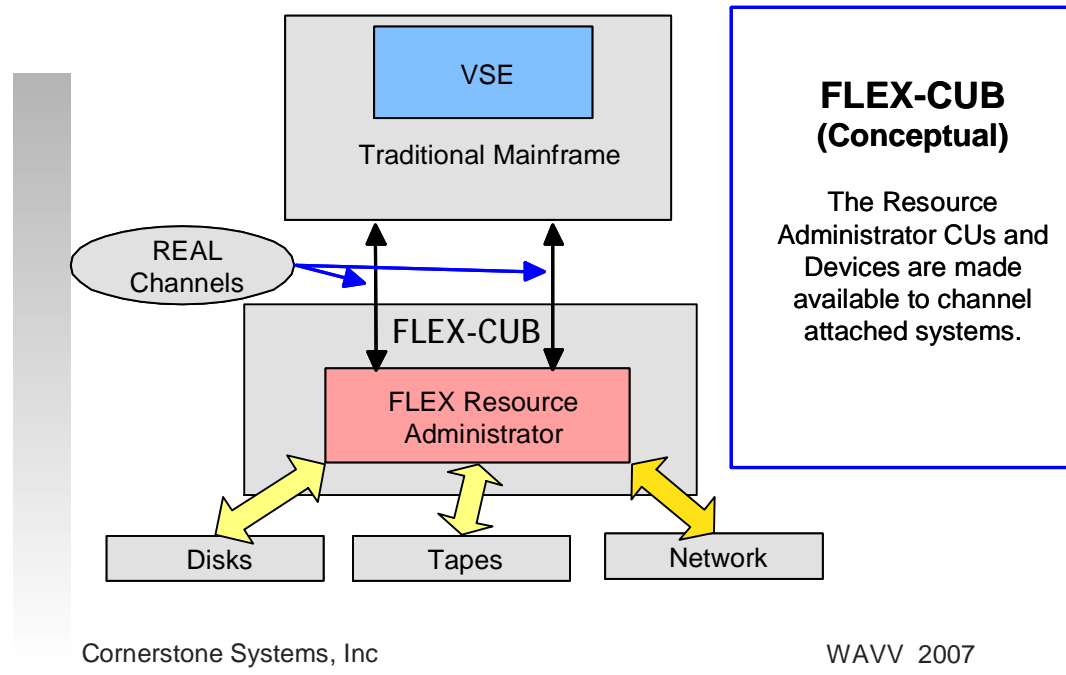
- Convert existing FLEX-ES system to a FLEX-CUB zCenter:
  - ▶ SCSI attached tapes (including SDLT) can appear as ESCON attached 3490, etc.
  - ▶ Emulated disks can be used as low access disks via ESCON
    - IPL old system on z9
    - disk-to-disk copy existing system to DS6800
  - ▶ Use additional disk space as 'faketape'
  - ▶ Back up faketape files to SDLT/LTO tape drive -or-
  - ▶ FTP faketape files to other backup system

For PWDs: Remember, no access or use of ADCDs from z9

## FLEX-ES Logical View



## FLEX-CUB Logical View



## Benefits



### Eases migration to z9

- Disk Server approach
  - ▶ Define zCenter emulated disks to the z9
  - ▶ IPL old system from zCenter
  - ▶ Do disk-to-disk copy to DS6800
- Tape Server approach
  - ▶ Backup emulated disks to faketape
  - ▶ IPL standalone restore utility on z9
  - ▶ Restore from faketape to DS6800



## Benefits (2)



### Access to SCSI tape drives

- Allow ESCON access to existing SCSI tape drives
  - SCSI 3480, 3490, SDLT, LTO
  - 3480/90 for Media compatibility
  - SDLT/LTO for high cartridge capacity (800GB)
    - Great for doing system back-ups.
- Other (channel attached) tape drives not required

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## Benefits (3)



### Use existing disks for Faketape

- Faketapes can provide a 'staging area' between old and new systems
  - dump from old system, restore to new
- Good target for unattended system backups.
  - Back up to faketape file(s)
  - dump to LTO or FTP to other system
  - Great for doing system back-ups.
- Supported by software vendors (VSE) and FSI (VM)

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## So.....



- A z9 plus DS6800 will be the best solution for most current FLEX-ES users who must grow or replace their system
- Don't throw the FLEX-ES system away, recycle it as a zCenter for:
  - ▶ Reduced cost (don't buy new tapes)
  - ▶ Increased flexibility

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## More Information?



**Stop by our Cornerstone  
booth (1 & 2) on the  
exhibit floor**

***Also see:***

***The State of IBM Mainframe Emulation***  
By Phil Smith III

**In the April-May 2007 issue of the zJournal**

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