IBM

IBM Software Group

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z/TPF Loaders Update

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Venue: System Control Program Subcommittee

AIM Enterprise Platform Software

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Agenda

- Offline Loader Enhancements for zSeries Linux
- System Scope Initializer Support
- New Alternate FACE Table (FCTB) Loader

Offline Loader Enhancements for zSeries Linux

Current Offline Loader zSeries Linux Support

- z/TPF GA:
  - ► E-type Loader (OLDR) to HFS files
    - No need to move programs compiled & linked on zSeries Linux to a z/OS system before running the offline loader
  - ► offldr command on zSeries Linux
    - FTP HFS files to z/TPF system
  - ► loadtpf command on zSeries Linux
    - Uses offldr program
    - Can FTP to user specified IP address

New Offline Loader zSeries Linux Support

- Image Loader (TLDR) to HFS files

- TLDR & OLDR can be written to tape devices
  - ► offldr & loadtpf commands updated to support tape devices (volser, expiration date, retention period)

Tapes on zSeries Linux

- New zSeries Linux command (labeltape) to create z/OS style standard label
- Volume serial number used to label the tape
- offldr tape data set is limited to a single tape volume
- Must specify /dev/ directory
- offldr honors expiration date in a standard tape label
- Use 'cat /proc/tapedevices' command to determine tape devices on Linux

Additional Information

- Support delivered with PJ30594 on z/TPF PUT02

- Completes TPFUG Requirement S98003
  - ► Convert Software Build/Load to HFS

- For more information see:
  - ► *z/TPF Program Management*
  - ► man pages for zSeries Linux commands

System Scope Initializer Support

Overview

- **Provides system scope constructors / destructors**
  - ► Global constructors / destructors are at a process scope

- **Use of System Scope Initializer Support provides a performance enhancement**
  - ► Initialization is done once for the program
    - – Initialization is not done for each process
  - ► Useful for data that remains constant
  - ► Changes made to writable portion of the program (including static data) are copied to the system view

Differences from Process Scope (Global) Constructors

Type	Scope	When Called	Defined by
Global Constructor	Process	Once per process, on 1st call to program by process	C++ class constructor function
Global Destructor	Process	Once per process, during exit processing or return from main()	C++ class destructor function
System Scope Initialization Function	Global	Once, on 1st call to program version by any process	__tpf_module_init()
System Scope Termination Function	Global	Once, when program version is removed from memory (E-type loader deactivate & accept)	__tpf_module_term()

Additional Information

- **iconv uses system scope initialization for memory tables (system heap)**

- **Support delivered with PJ30741 on z/TPF PUT02**

- **For more information see *z/TPF Application Programming***

New Alternate FACE Table (FCTB) Loader

Overview

- Allows a FCTB to be loaded without an IPL
- New command (ZFCTB)
  - ► ZFCTB LOAD
    - – from a ddname
  - ► ZFCTB ACTIVATE
    - – for all processors running on the image or a specific processor
  - ► ZFCTB DEACTIVATE
    - – for all processors running on the image or a specific processor
  - ► ZFCTB DELETE
  - ► ZFCTB ACCEPT
    - – replaces the base FCTB

Benefits

- Can add new record types & expand existing record types

  ► Received requirement to allow other modifications

- User Exits provided for:

  ► Compatibility checking

  ► History

  ► Relocation of user data

Considerations

- **Maximum of 1 alternate & 1 base FCTB can be loaded for each z/TPF image**
  - ► FCTB loaded with ZTPLD is the base FCTB
  - ► New option in TLDR load for clearing alternate FCTB

- **ZIMAG DISPLAY IMAGE indicates the status of the alternate FCTB**

- **Offline Image Loader (TLDR) is used to create input medium for ZFCTB LOAD**

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Considerations *(continued)*

- ZAPGM, ZDPGM, ZDECD & ZMODE act on the active FCTB

- On a hard IPL when an active alternate FCTB exists, operator is prompted to choose between base FCTB or alternate FCTB
  - ► Prevents looping errors resulting from an alternate FCTB that is not valid
  - ► On fallback to the base FCTB, the alternate FCTB is deactivated for the processor
  - ► No operator prompt on a soft IPL
    - – Version in use prior to the IPL is used

Additional Information

- Support delivered with PJ30739 after z/TPF PUT02

- Incorporates TPFUG Requirement S04001
  - ► Ability to load FCTB in NORM state

- For more information see *z/TPF Program Management*

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