z/TPF V1.1

# TPF Users Group Fall 2008

# z/TPF Trends and Directions

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Main Tent

**AIM Enterprise Platform Software**
**IBM z/Transaction Processing Facility Enterprise Edition 1.1.0**

# Topics

- **TPF's Customer Trends and Directions team**
- **z/TPF:  Where we are today**
- **z/TPF:  Where we are going in the future**
- **What to look for at this TPFUG**

# Keeping IBM in touch with the TPF users

- **Over the last 10 years or so, Stu Waldron has been the primary technical contact for users to find out about TPF product strategy and for offering insight into new business uses for TPF**
- **Beginning of 2008: Stu bid farewell to the TPF development organization**
  - Accepted a position in IBM's Travel and Transportation (T&T) organization with cross-product responsibilities
  - No longer solely focused on the TPF product set
- **TPF development lab needed to fill this void**
  - Provide architectural strategy guidance for TPF users
  - Gather knowledge and industry trends from TPF users and ensure these needs are fed back into the product development life cycle
  - Led to formation of the "SRT" (Stu Replacement Team)

# Customer Trends and Directions Team (CTAD): Goals and mission

- **Stay in regular contact with all TPF users (phone conferences, face-to-face meetings, etc.)**
  - Interface with both technical and business leaders
  - Keep users informed about the ongoing development strategy and new features and functions planned for the TPF family of products (z/TPF, ALCS, z/TPFDF, TOS, and TPF Toolkit)
  - Talk with users to determine how TPF products are being used in their enterprises and what types of problems and challenges they are trying to solve
- **Use information obtained from all channels to determine new product deliverables and enhancements**
- **We will make every effort to maintain regular contacts; but you can use other methods, such as your dedicated customer service representative (CSR), to initiate a meeting when you need it**

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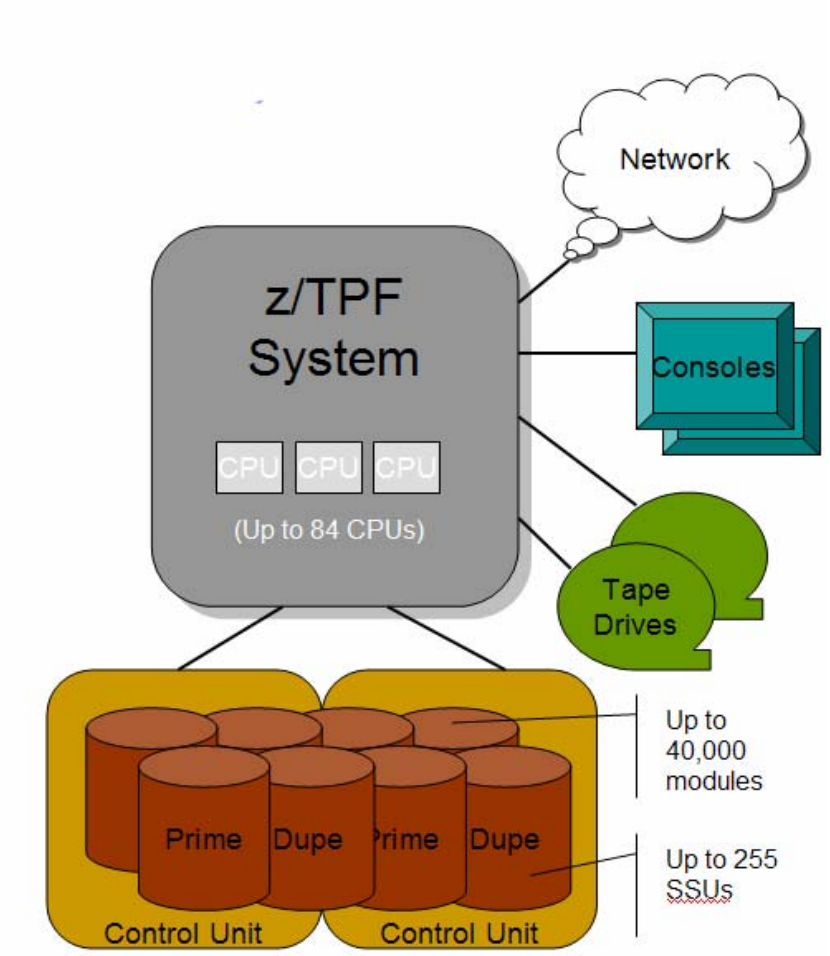
# z/TPF: Ultimate high volume transaction processor

- **Generally available in September 2005**
- **When talking about z/TPF you often hear words like: “modern”, “open”, “Linux”, “SOA”, “Security”, “usability”, and “agility”**
- **IBM has continued to invest heavily in z/TPF over the last 3 years:**
  - Incorporating as many user modifications into the base product as possible in order to ease migrations
  - Adding new technologies and functionality into the product to help support the ever-changing needs or your business
- **We are seeing a greater increase in z/TPF migration-related activities. This translates into users beginning to take advantage of z/TPF’s new features and function.**

  **For example…**

# z/TPF provides increased scalability

- **64-bit z/Architecture (16 exabytes of memory)**
- **Greater number of CPUs in a single z/TPF image**
  - 84 CPUs up from 16 CPUs
- **Greater number of symbolic device addresses accessible**
  - 65,535 SDAs up from 32,767 SDAs
- **Greater number of DASD modules can be connected to z/TPF system**
  - 40,000 mods up from 4000 mods
  - 65,520 cylinders/mod up from 32,760 cylinders/mod
- **Greater number of subsystem users (logical separation of databases)**
  - 255 SSUs up from 94 SSUs



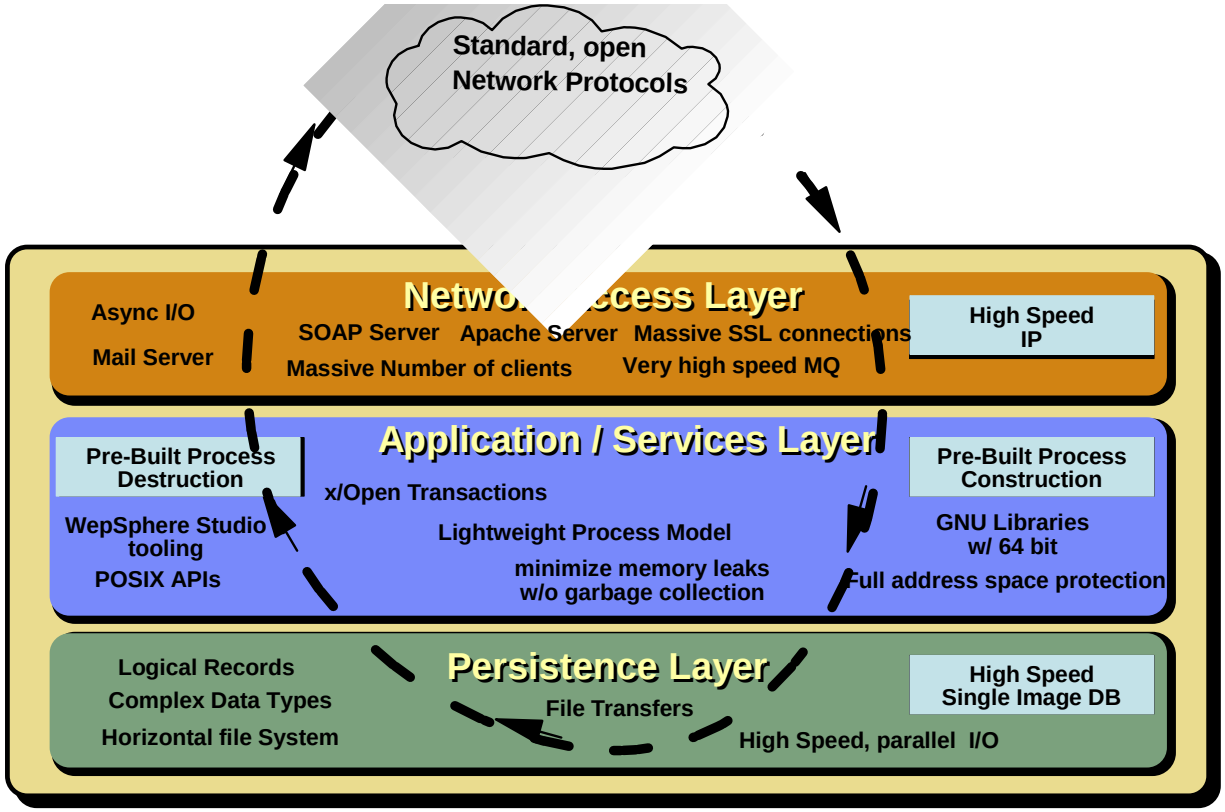
# z/TPF offers even greater reliability and availability

- **Improved system resource utilization monitoring**
- **Updated task scheduler provides greater throughput at higher CPU utilizations**
- **Several types of configuration updates can be performed without an initial program load (IPL) of the z/TPF system**
  - Database expansion
  - Online FCTB load
  - Program allocation
  - Daylight savings time change
- **Message prioritization with TCP/IP**
- **System error dump time reduced by buffering diagnostic data to memory before writing to tape**

# z/TPF is a high performance "open" platform

Thread-safe C/C++ libraries:

glibc
libstdc++
sockets
file system
pthread_*




Easier to port open source packages:

OpenSSL
Apache
libCURL
MySQL
OpenLDAP
Tar
XML4C
zlib

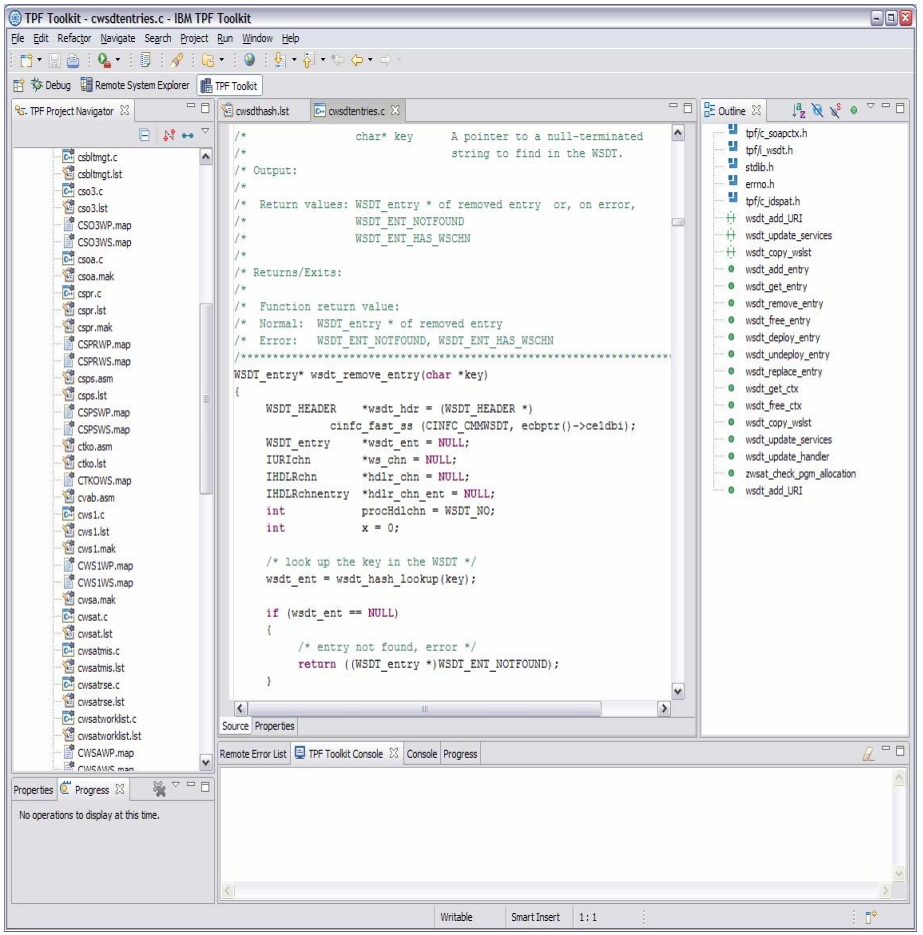
POSIX-compliant hierarchical file system (VFS, /proc, /sys)

Common industry infrastructure

Linux-based development environment

# z/TPF and the Linux development environment

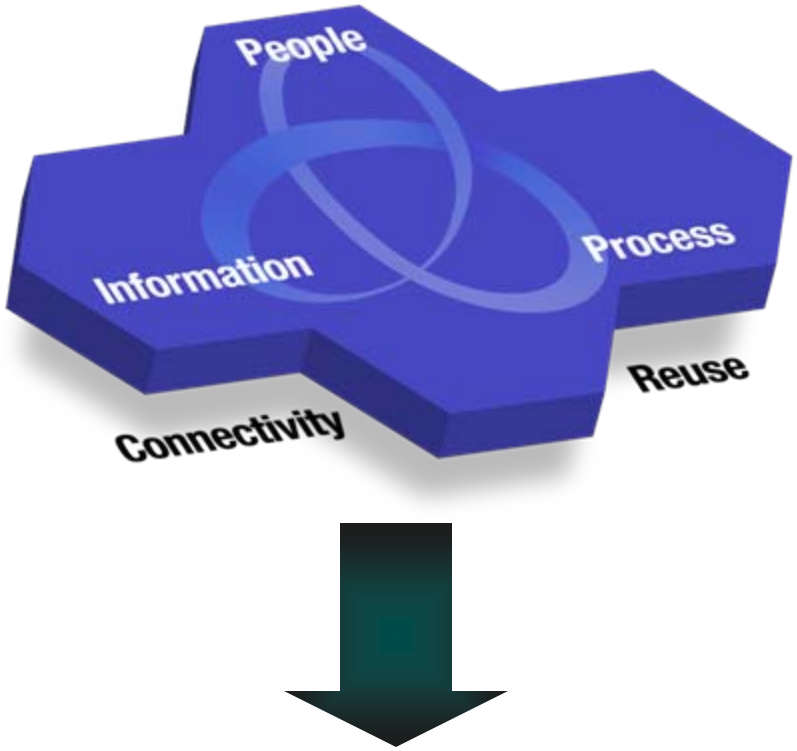
- **Linux for System z provides a modern development environment for building all z/TPF code**
- **Use the gcc/g++ compilers for building C/C++ code**
- **Use HLASM for assembler code:**
  - HLASM under Linux for online z/TPF code
    - Option #1: PRPQ executed under Linux on an IFL
    - Option #2: as a program product under Linux on a “normal CP” (v1.6 and later only)
  - HLASM under z/OS for offline z/TPF code
- **TPF Toolkit provides complete integrated development environment (IDE)**



# SOA entry points and z/TPF

**Although some of the technologies used in implementing a Service Oriented Architecture (SOA) may be new, the basic concepts behind the architecture are not:**

- **Reuse:** Web service provider support (WS-I Conformance, SOAP bridge)
- **Connectivity:** WebSphere MQ, Apache, HTTP client, FTP client
- **Process:** TPF Toolkit Web service development tooling
- **Information:** SDO, MySQL, OpenLDAP
- **People:** Role-based tooling - TPF Toolkit, TOS, CDC, software profiler, dump analyzer




Begin the SOA journey with the **Entry Point** that most closely aligns to your business needs and goals …

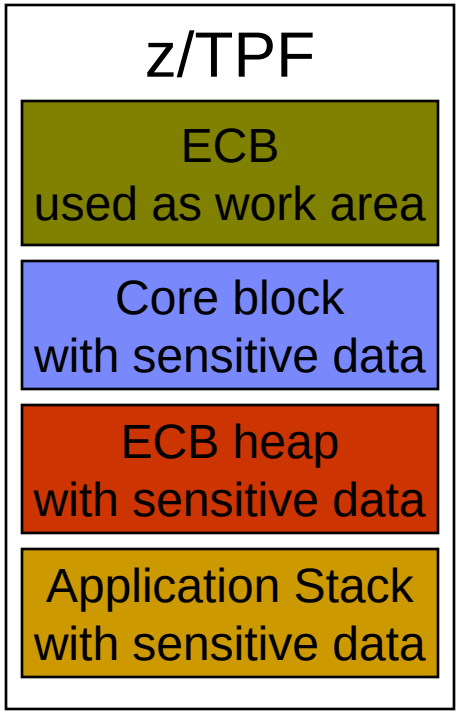
# Securing data with z/TPF

## Data in flight

Network

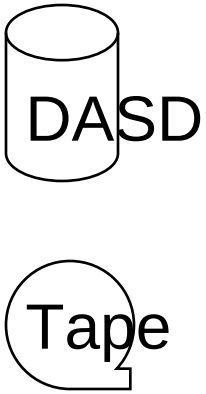
- OpenSSL
- Shared SSL sessions
- Secure FTP client
- Secure HTTP client
- Secure HTTP server

## Data in use




Non-displayable ECB storage

## Data at rest




- Tape encryption (TS1120)
- Encryption/decryption APIs
- Secure key management
- File system security

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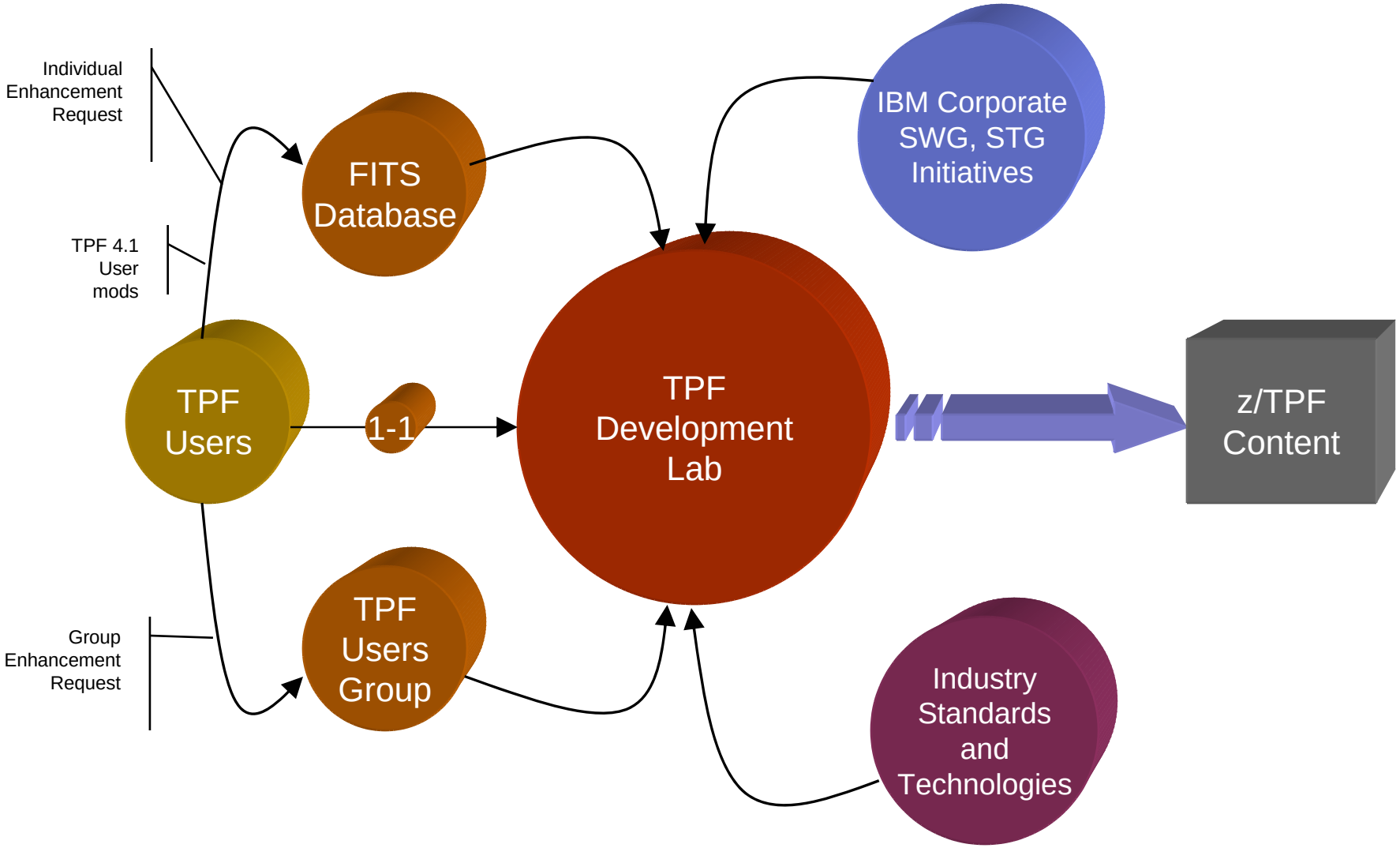
# Determining the content of the z/TPF product



# z/TPF's development focus areas and drivers

- **Service Oriented Architecture (SOA)**
  - Enterprise-wide integration
  - Web service enablement and extensions
  - Web service development tooling
- **Security**
  - Regulatory requirements such as Payment Card Industry (PCI) compliance
  - Exploit System z hardware capabilities
- **Migration assistance**
  - Incorporate TPF 4.1 user modifications
  - Simplify PUT upgrades
- **Platform currency**
  - New hardware support
  - Third-party and ISV support

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# IBM Hospitality Suite in Salon F, G, and H

- **Already Available Support**
  - *Online DASD Formatter*
  - *File System Version Control*
  - *SDO Access to z/TPFDF*
  - *Apache 2.2*
  - *MySQL*
  - *OpenLDAP*
  - *TPF Toolkit*
  - *Build Environment and Tools*
  - *Rational Test Tools*
- **Sneak Previews**
  - *Secure MQ Channels with SSL*
  - *SOAP Consumer Support*
  - *IBM Tivoli Monitoring for z/TPF*
  - *3215 Console Support via OSA*
  - *Crypto Enhancements*

# Tuesday subcommittee meetings (9:30 AM)

- **Database/TPFDF Subcommittee**
  - *SDO z/TPFDF Data Access Service: Performance Analysis* – Sasha Krymer
  - *z/TPFDF Update* – Kevin Jones
  - *Loading Files with Programs: Version Control in the File System* – Stephen Record
- **Distributed Systems Subcommittee**
  - *WebSphere MQ Support for SSL* – John Muller
  - *Deciding to Upgrade to Apache v2.2.9* – Jim Johnston
  - *Concepts of z/TPF SOAP Consumer Support* – Lisa Banks

# Tuesday subcommittee meetings (11:00 AM)

- **Development Tools Subcommittee**
  - *TPF Toolkit Update* – Mary Komor
- **System Control Program Subcommittee**
  - *Dump History and Various z/TPF Enhancements* – Mike Shershin
  - *z/TPF DASD Update* – Chris Filachek
  - *z/TPF System Generation* – Sam Lee

# Tuesday subcommittee meetings (2:00 PM)

- **Operations and Coverage**
  - *Loaders Changes for Loading Files*– Sue Pavlakis
  - *Online DASD Formatter* – Chris Filachek
  - *TPF Systems Management: TPF Operations Server Update* – Don Kallberg
- **Applications Development**
  - *Application Development Using SDO Access to z/TPFDF: Advanced Features* – Glenn Katzen

# Tuesday subcommittee meetings (4:00 PM)

- **Open Source Subcommittee**
  - *z/TPF Support for MySQL* – Mark Cooper
  - *z/TPF Visibility: Optimizing Your z/TPF Programs* – Edwin van de Grift
  - *Industry Content Pack (Framework)* – Stu Waldron
- **Communications Subcommittee**
  - *z/TPF Public Key Infrastructure Support* – Mark Gambino

# Wednesday education sessions (9:00 AM)

- ***z/TPF Enhancements for Assembler Programs* – Mike Shershin**
- ***Quality Management in a Collaborative Environment* – Pete Nicholls**

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