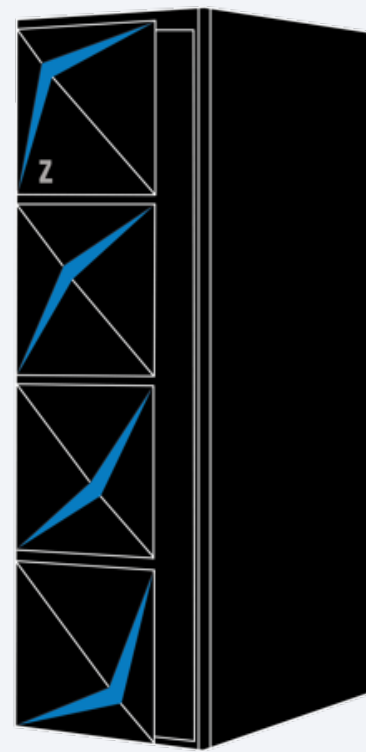


Available Now

New capabilities currently available on z/TPF



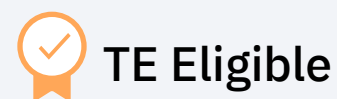
What is TE Eligible?

Transformation engines (TEs) are general processor (GP) engines that are available at a reduced cost to encourage z/TPF modernization, application extension, and integration with other IBM products.

Application Agility

- Modernize z/TPF applications using DevOps and Agile principles, including Test Driven Development (TDD), automated testing, and CI/CD
- Reduce dev/test costs when modifying z/TPF applications to implement new business requirements
- Validate what the production impact of an application change will be well before deploying to production
- Improve code quality and ensure new/changed code has been properly tested

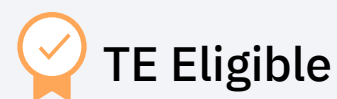
MQ Internal Exploitation of IBM z15 Hardware Compression



TE Eligible

- Reduce the CPU and IO costs of MQ processing
- Reduce the amount of 31-bit memory used by MQ

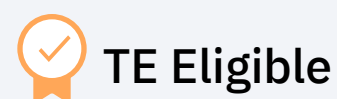
DFDL Enhancements



TE Eligible

- Maintain a mapping data between multiple versions of dissimilar structures without requiring application code changes
- Flatten structures containing pointers such that those structures can be passed and then used by another process (ECB)
- Automatically create name-value pairs (NVPs) based on information in a REST request, requiring no application changes

Guaranteed Delivery for JVM Services using z/TPFDF Queue Support



TE Eligible

- Use guaranteed delivery service via a single function call
- Reach rates of 30,000 messages per second when publishing messages whose size is under 4K

z/TPF Support for MongoDB User Management Enhancements

- Easily grant or revoke a MongoDB remote user's access to a particular collection

Multiple Module Copy Enhancements

- Recover faster from a DASD hardware failure reducing the risk of a complex-wide outage
- Copy more modules concurrently during a DASD migration to reduce the time needed to complete the migration

Java Performance Enhancements



TE Eligible

- Reduce the time and resources consumed when starting or restarting a JVM
- Reduce the memory requirements for z/TPF when using Java support

Security Enhancements



TE Eligible

- Use Diffie-Hellman Ephemeral (DHE), AES in Galois/Counter Mode (GCM), and SHA-384 based ciphers to improve the security of TLS connections with your z/TPF system
- Improve the performance of TLS connections with your z/TPF system using AES in GCM
- Manage a directory of certificates with a single operator command

System Wide JVM Monitoring

- Monitor all JVMs on z/TPF using centralized dashboards
- Identify whether an entire JAM is having issues versus just one JVM in that JAM

Moving Forward

Upcoming for z/TPF

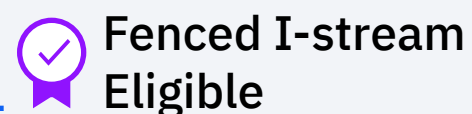
z/TPF Message Analysis Tool

- Identify where in an application excessive resources are being consumed
- Analyze production system traffic to find inefficiencies in application code
- Train new-hire application developers using application flow data from real production traffic to make them productive more quickly

Hybrid Cloud Monitoring with Instana

- Monitor an entire workload (part of which is processed on z/TPF) from a centralized application performance monitor (APM)
- Quickly identify the component that is causing problems with a workload

Recoup Enhancements

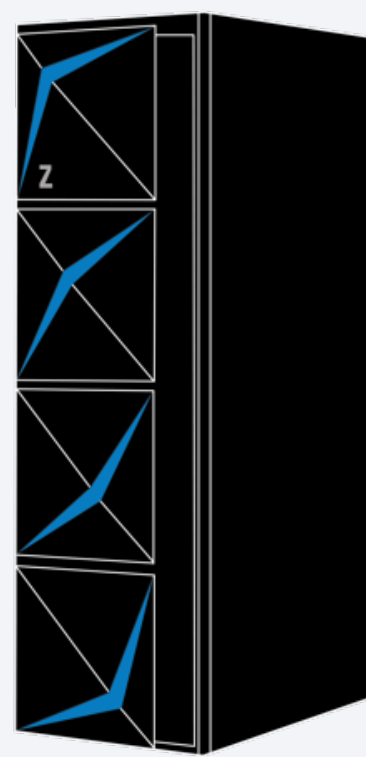


- Reduce the time it takes to Recoup a z/TPFDF database by over 90% using the Recoup Optimized Chain Chase (ROC) option for an indexed databases with a large amount of single-record detail subfiles
- Grow a z/TPFDF indexed database to 100 billion or more single-record detail subfiles and still Recoup that DB in less than 1 hour

- Leverage Dynamic CPU fenced I-streams to decrease the time it takes to run the Recoup utility, and do so without impacting transactional workload

High Performance FICON (HPF) Enhancements

- Reduce the time to copy DASD modules using HPF
- Improve the performance for commit log processing and system services that use commit log like MQ



What is TE Eligible?

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What is Fenced I-stream Eligible?

Fenced I-stream Eligible means functionality that is allowed to use some Dynamic CPU fenced I-streams at no cost.

Network Security Compliance

- Validate that connections with z/TPF are secure and using approved ciphers
- Identify which z/TPF applications and remote users connected to z/TPF are using a given cipher
- Automatic notification when a z/TPF certificate is nearing expiration

z/TPF Trace Log Enhancements

- Analyze messages that span ECBs
- Get all trace information for a message regardless of which system traces were currently active
- Identify where in the application copy-on-write processing is occurring

IBM z15 Hardware Compression for Network Traffic



- Reduce the CPU, IO, and encryption costs of MQ and HTTP processing
- Reduce the amount of 31-bit memory used by MQ
- Reduce the network bandwidth used and costs of MQ and HTTP server
- Reduce end user response time of larger MQ and HTTP messages