Parallel Sysplex Internals & Fundamentals

This three-day course examines the fundamental mechanics of IBM's parallel sysplex architecture at a detailed level. It will provide attendees with a full and comprehensive understanding of today's sysplex, an environment that can provide continuous availability for a huge variety of workloads. The course describes in considerable detail the three sets of services involved. This course should be considered the technical 'foundation stone' for all involved with a sysplex at a technical level.

Objectives
On successful completion of this course, attendees will be able to:
- describe XCF services
- explain data sharing
- explain how connection services work
- explain how Data Sharing works
- explain how cache, lock & list services work
- describe workload manager services

Who Should Attend
Systems Programmers and support staff.

Prerequisites
Attendance of the course Parallel Sysplex Technical Overview, or equivalent experience.

Duration
3 days

Contents

XCF services
Managing the sysplex; member status and attributes; joining a group; interrogating XCF; sending and receiving messages; advanced message services; large messages; User Status tracking; Group Status tracking; leaving a group; Abend handling; ARM concepts, policies and exit routines; JESXCF.

Data sharing
Why data sharing; what it really means; introduction to the services.

Connection services
Permissions; allocation of structures; first connection; allocation parms; connection failures; LISTEN exit; Connection States; connection & structure persistence; structure rebuilds; Structure Alter and Disposition; CF management services.

Cache services
Elements of a cache system; elements of a cache structure; allocation parameters; managing the local cache buffers; Local Cache Vector; casting out data; cast-out Classes, Storage Classes, Reclaims and Reclaim Vectors; Cache Types; synchronous and asynchronous services; physical CF access processing; changed CF requests.

Lock services
Elements of a Lock Structure; allocation parameters; requesting a Lock; Resource Request Queue states; contention & false contention; handling contention; exit processing; Recovery Management; services and synchronization.

List services
Elements of a List Structure; List Controls and List Entry Controls; allocation parameters; referencing list entries; serialised
lists and lock processing; LOCKCOMP processing; synchronous and asynchronous processing; handling lock contention; list transition monitoring; sublists and monitoring; event queues and event monitoring; list services extensions; secondary keys; IXLLSTE, IXLLSTM and IXLLSTC; JES checkpoint.

**Workload Manager services**
The continuous availability environment – a review so far; WLM’s role in the sysplex; WLM service definition; setting goals; Workunit types; classifying work; WLM Work Manager services; Execution Delay Monitoring Services; CICS and CICSplex SM; enclaves and the enclave services; enclave vs address space level work; SWUQ; enclaves and preemptable SRBs; independent enclaves; dependent enclaves; multisystem enclaves; Application Environments; AE – the Queuing Manager Model; AE – the Routing Manager Model; Defining Application Environments; DB2 and the Distributed Data Facility; Sysplex Routing Services; DDF Workload balancing; UNIX System Services fork support; VTAM generic resources; scheduling environments; WLM-managed Initiators.