

SYSTEM V	POSIX
AT & T introduced (1983) three new forms of IPC facilities namely message queues, shared memory, and semaphores.	Portable Operating System Interface standards specified by IEEE to define application programming interface (API). POSIX covers all the three forms of IPC
SYSTEM V IPC covers all the IPC mechanisms viz., pipes, named pipes, message queues, signals, semaphores, and shared memory. It also covers socket and Unix Domain sockets.	Almost all the basic concepts are the same as System V. It only differs with the interface
Shared Memory Interface Calls shmget(), shmat(), shmdt(), shmctl()	Shared Memory Interface Calls shm_open(), mmap(), shm_unlink()
Message Queue Interface Calls msgget(), msgsnd(), msgrcv(), msgctl()	Message Queue Interface Calls mq_open(), mq_send(), mq_receive(), mq_unlink()
Semaphore Interface Calls semget(), semop(), semctl()	Semaphore Interface Calls Named Semaphores sem_open(), sem_close(), sem_unlink(), sem_post(), sem_wait(), sem_trywait(), sem_timedwait(), sem_getvalue() Unnamed or Memory based semaphores sem_init(), sem_post(), sem_wait(), sem_getvalue(),sem_destroy()
Uses keys and identifiers to identify the IPC objects.	Uses names and file descriptors to identify IPC objects
NA	POSIX Message Queues can be monitored using select(), poll() and epoll APIs
Offers msgctl() call	Provides functions (mq_getattr() and mq_setattr()) either to access or set attributes 11. IPC - System V & POSIX
NA	Multi-thread safe. Covers thread synchronization functions such as mutex locks, conditional variables, read-write locks, etc.
NA	Offers few notification features for message queues (such as mq_notify())
Requires system calls such as shmctl(), commands (ipcs, ipcrm) to perform status/control operations.	Shared memory objects can be examined and manipulated using system calls such as fstat(), fchmod()
The size of a System V shared memory segment is fixed at the time of creation (via shmget())	We can use ftruncate() to adjust the size of the underlying object, and then re-create the mapping using munmap() and mmap() (or the Linux-specific mremap())