

The following shows the configuration modifications compared to the default settings that resulted in a 25% performance improvement for Fedora. In the list, a plus sign (+) indicates default disabled settings that are now enabled, while a minus sign (-) indicates the opposite change:

Category	Configuration Options	Modifications in Fedora	Description of options when enabled
Debugging and Security	CONFIG_DEBUG_WQ_FORCE_RR_CPU	+	Force handling of work queues in round-robin fashion for debugging purposes.
	CONFIG_DEBUG_KERNEL	-	Enable kernel debugging features.
	CONFIG_FTRACE	-	Enable function tracing functionality.
	CONFIG_KUNIT	-	Enable kernel unit testing framework.
	CONFIG_RUNTIME_TESTING_MENU	-	Enable runtime testing configuration options
	CONFIG_RCU_CPU_STALL_TIMEOUT	60->3	Set CPU stall timeout for RCU locks.
	CONFIG_BUG_ON_DATA_CORRUPTION	-	Trigger bug reports on data corruption.
	CONFIG_PAGE_POISONING	-	Enable page poisoning to help detect bugs that use released memory.
	CONFIG_DEBUG_RODATA_TEST	-	Test protection of read-only data.
	CONFIG_DEBUG_WX	-	Detect violations of write-execution (WX) permissions in memory regions.
	CONFIG_KFENCE	-	Enable kernel boundary checks to capture errors such as overflows.
	CONFIG_FRAME_POINTER	-	Preserve function frame pointers for stack tracing support.
	CONFIG_FRAME_WARN	2048->0	Set warning threshold for stack frame sizes.

	CONFIG_DYNAMIC_DEBUG	-	Enable dynamic debugging functionality.
	CONFIG_CONSOLE_LOGLEVEL_QUIET	3->4	Set minimum level for console logging.
	CONFIG_MESSAGE_LOGLEVEL_DEFAULT	4->1	Set default message log level.
	CONFIG_SLAB_FREELIST_RANDOM	+	Enable randomization of SLAB free lists.
	CONFIG_LOG_BUF_SHIFT	18->17	Set size of log buffer.
	CONFIG_LOG_CPU_MAX_BUF_SHIFT	12->17	Set maximum CPU log buffer size.
Continuous memory allocation and management	CONFIG_CONTIGUOUS_MEMORY_ALLOCATOR	+	Enable Contiguous Memory Allocator.
	CONFIG_DEFAULT_MMAP_MIN_ADDR	4096->65536	Set minimum address for memory mapping.
	CONFIG_CMA_SYSFS	+	Display CMA information in sysfs.
	CONFIG_DMA_CMA	+	Enable CMA for direct memory access (DMA) allocations.
	CONFIG_DMABUF_HEAPS_CMA	+	Enable CMA's DMA buffer heaps.
	CONFIG_CMA_SIZE_SEL_PERCENTAGE	+	Set CMA size selection based on percentage.
	CONFIG_CMA_ALIGNMENT	null->12	Set alignment requirement for CMA allocations.
	CONFIG_CMA_SIZE_PERCENTAGE	null->0	Set CMA size as a percentage of total memory.
	CONFIG_ZSWAP_COMPRESSOR_DEFAULT_DEFLATE	+	Set default compression algorithm for Zswap to deflate.
	CONFIG_TRANSPARENT_HUGEPAGE_ALWAYS	+	Always use transparent huge pages.
	CONFIG_SLAB_FREELIST_RANDOM	+	Use SLAB memory allocator.
CPU and power	CONFIG_CPU_IDLE	-	Enable CPU idle time management.

management	CONFIG_SCHED_AUTOGROUP	-	Enable scheduler automatic grouping functionality.
	CONFIG_PREEMPT_NONE	+	Disable preemptive support.
Profiling	CONFIG_ZSMALLOC_STAT	+	Enable statistics for Zsmalloc.
	CONFIG_PROFILING	-	Enable performance profiling support.
	CONFIG_TASKSTATS	-	Enables the generation of task statistics.
Control Groups and Resource Management	CONFIG_MEMCG	-	Enable memory control groups.
	CONFIG_CGROUP_SCHED	-	Enable control group scheduler.
	CONFIG_CGROUP_PIDS	-	Enable process identifier control
	CONFIG_CGROUP_FREEZER	-	group
	CONFIG_CGROUP_DEVICE	-	Enable control group freezer functionality.
	CONFIG_CGROUP_PERF	-	Enable device control group.
	CONFIG_CGROUP_PERF.	-	Enable performance counter control group.
Others	CONFIG_VIRTUALIZATION	-	Enable support for virtualization technology
	CONFIG_PSI	-	Enables Pressure Stall Information monitoring to track system resource bottlenecks