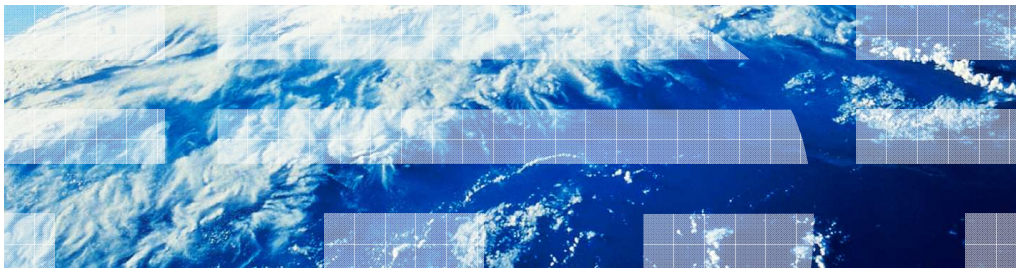
CICS Transaction Server for z/OS V4.2

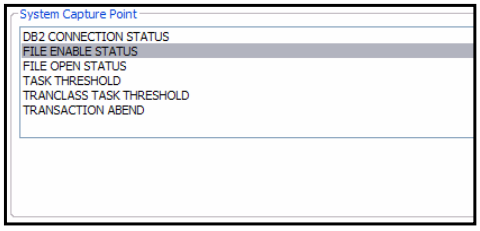
Event processing - System events



This module provides information about system events and how they are supported in CICS Transaction Server for z/OS V4.2 event processing.

System event capture points (1 of 2)

- Six new system event capture points
- Capture events when:
  - DB2 connection status changes
  - FILE enable status changes
  - FILE open status changes
  - Unhandled transaction abends
  - Current active tasks for a TRANCLASS exceeds or is below a certain percentage of MAXACTIVE
  - Current active task in a region exceeds or is below a certain percentage of MAXTASKS

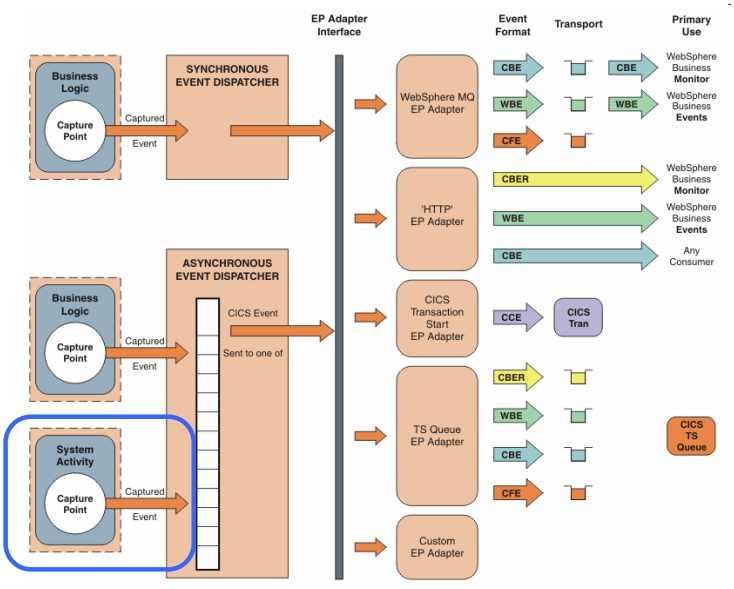


CICS TS V4.2 event processing introduces six new system event capture points.

These allow events to be captured when DB2 connection and FILE statuses change and when transactions abend.

It also captures events when the number of active tasks for a TRANCLASS or a region exceeds or is below certain percentages of MAXACTIVE or MAXTASKS.

System event capture points (2 of 2)

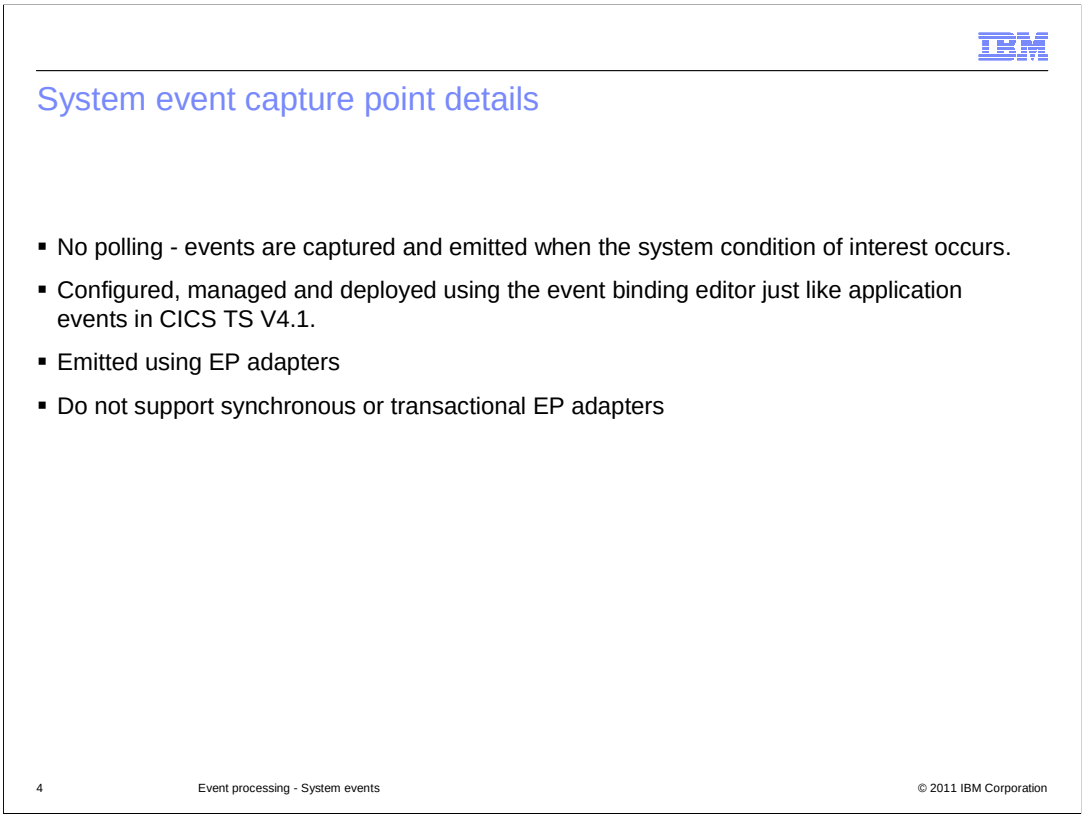


This diagram shows a high level view of event processing in CICS TS V4.2.

With the addition of system event capture points, it is now possible to capture events from within system processes.

Once the events are captured, they are processed in the same way as all other CICS events and can be emitted using any of the CICS EP adapters.

Note that system events cannot be emitted using synchronous emission.



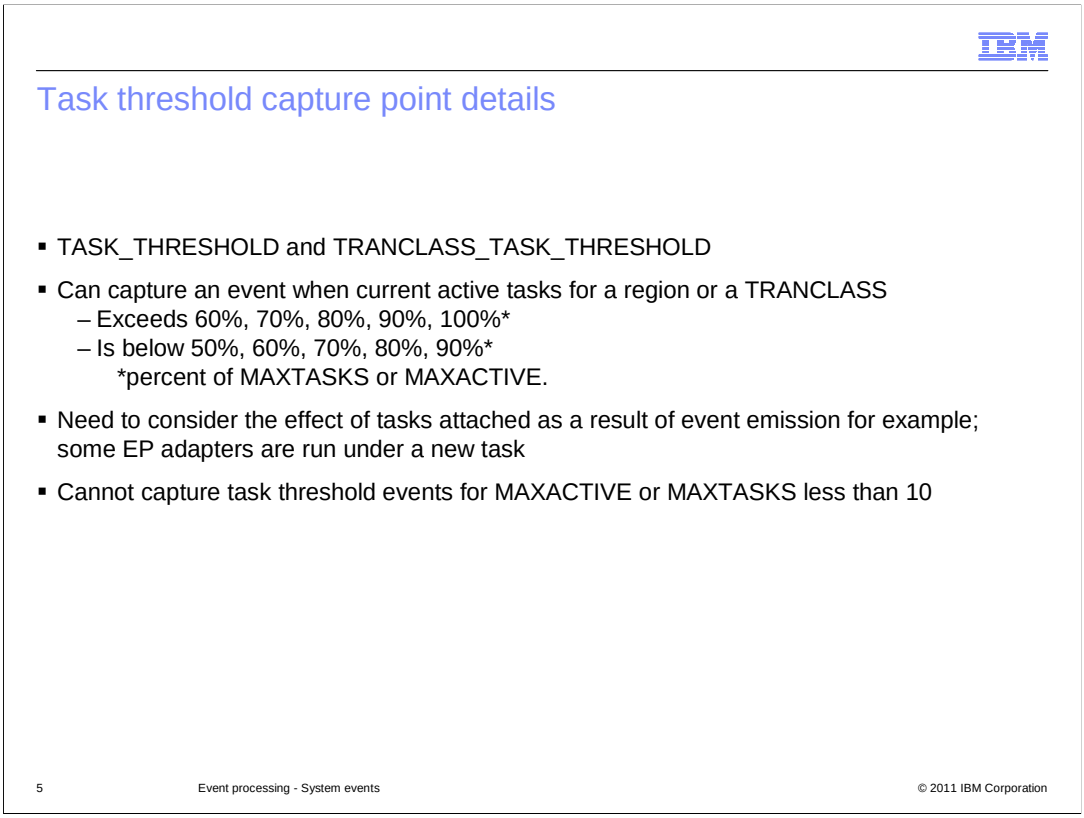
System events from CICS TS V4.2 are not polled.

This provides two key benefits over system monitors which do poll.

Firstly. the events are captured and emitted when the system condition of interest occurs, rather than some time after when the next poll happens.

Secondly, there is no performance overhead of continuously having to poll the system for status changes.

System events are configured and managed using the event binding editor in the same way as application events, and can be emitted using any of the EP adapters. This is providing they do not use synchronous emission mode or transactional TRANSMODE.



The following two slides highlight some special considerations when using the TASK_THRESHOLD and TRANCLASS_TASK_THRESHOLD system event capture points.

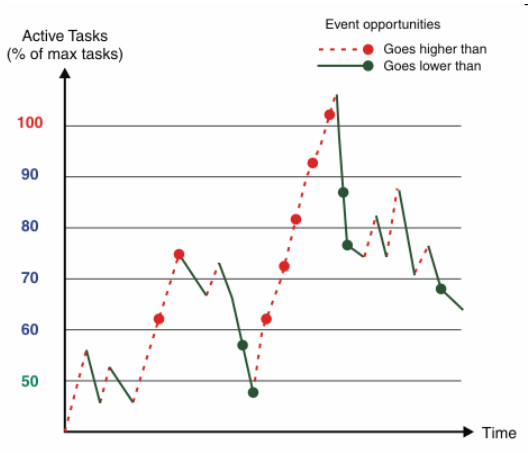
These capture points all events to be captured when the number of active task in a region or for a particular TRANCLASS exceeds or is below a certain percentage of MAXTASKS or MAXACTIVE.

Since new tasks in a system can potentially cause an event to be emitted, you should think carefully about the effect that any new tasks that occur has, as a result of these events.

One limitation of these system event capture points is they cannot be used when MAXACTIVE or MAXTASKS is less than 10.

Preventing task threshold event flooding

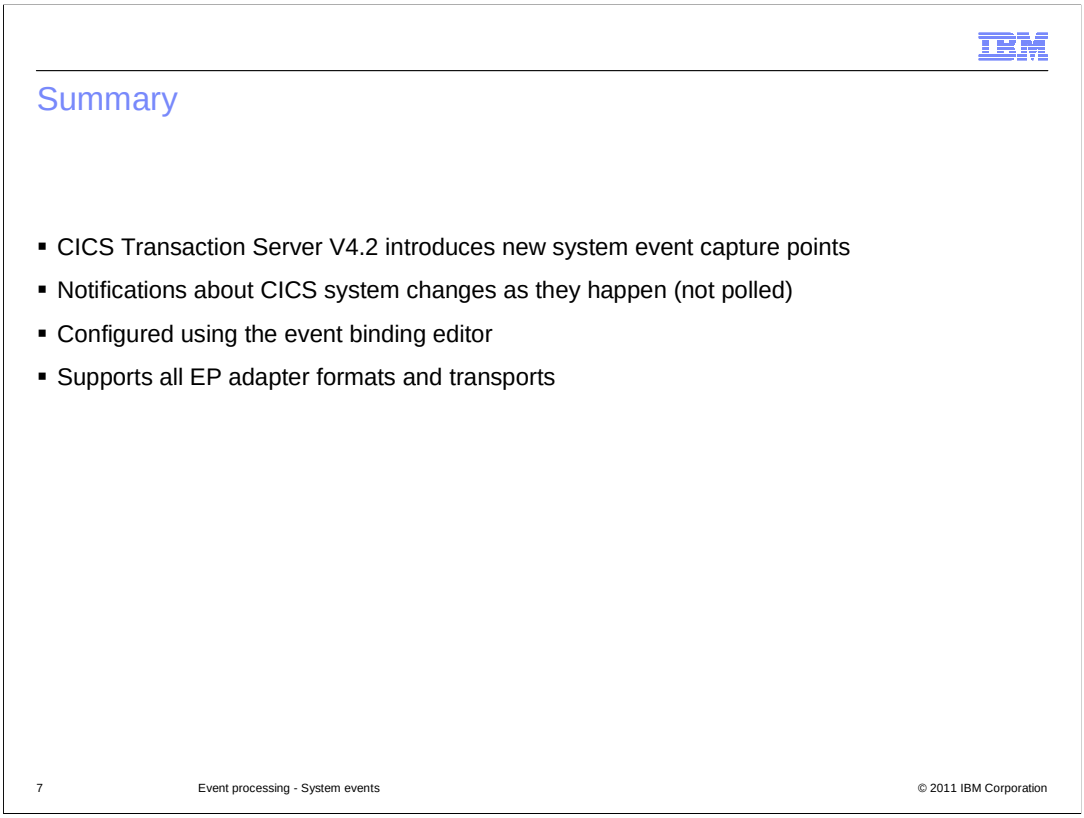
- Events can be captured only when the number of active tasks crosses a new threshold boundary
- This prevents event flooding when workloads flip flop across a threshold



6 Event processing - System events

To prevent the flooding of task threshold events when the number of active tasks thrashes across a threshold, the threshold crosses which are available for event capture has been restricted. This ensures an event can be captured when a threshold is first crossed. However, subsequent crosses of that threshold are not available for capture until a different threshold either exceeds it or is below it, has been crossed.

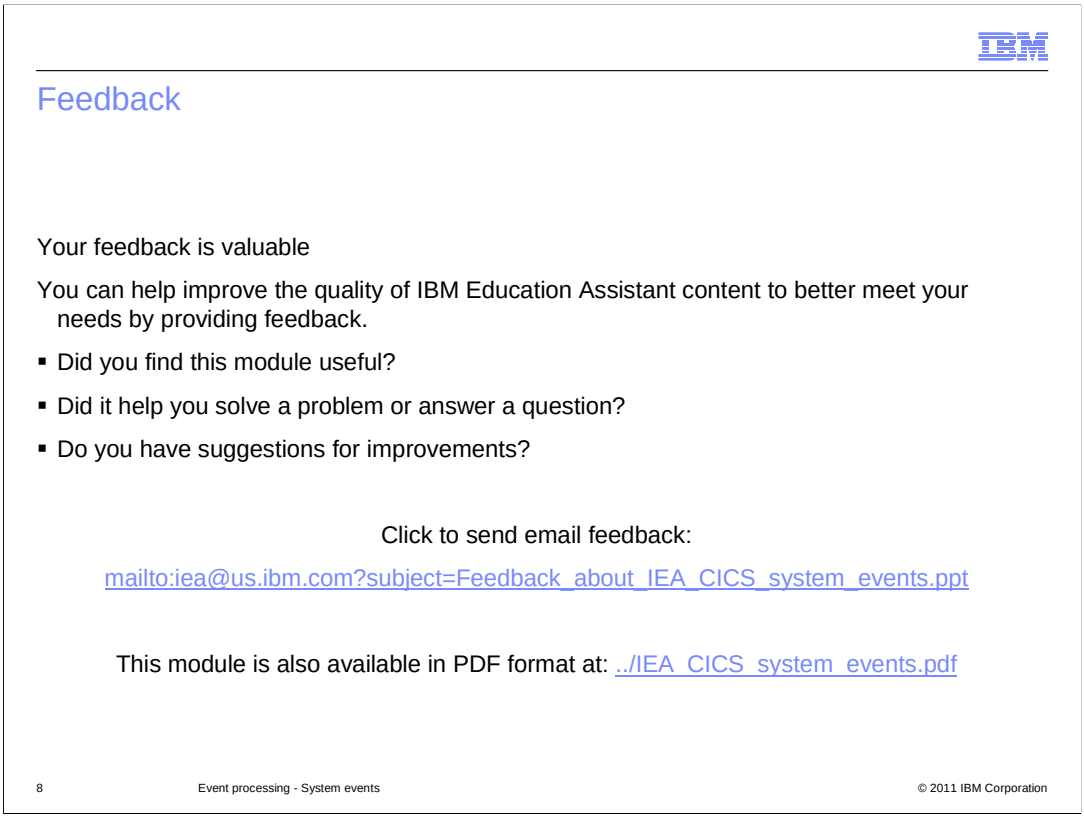
The graph shows the number of active tasks in a system increasing and decreasing. The dots show where it is possible to capture a task threshold event in accordance with the restriction rule.



In summary, CICS TS V4.2 introduces new system event capture points.

These provide notifications about CICS system changes as they occur in real time.

They are configured using the event binding editor, in the same way as application capture points and can be emitted using any EP adapters, providing they are asynchronous and non-transactional.



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