



The Commetrex Call Classifier (CC) determines whether a call is voice, fax, or data by examining the call’s media stream. This function is useful in media gateways that accept PSTN calls without knowing the type of stream processing, such as vocoder, fax or data modem relay, to place in the call path.

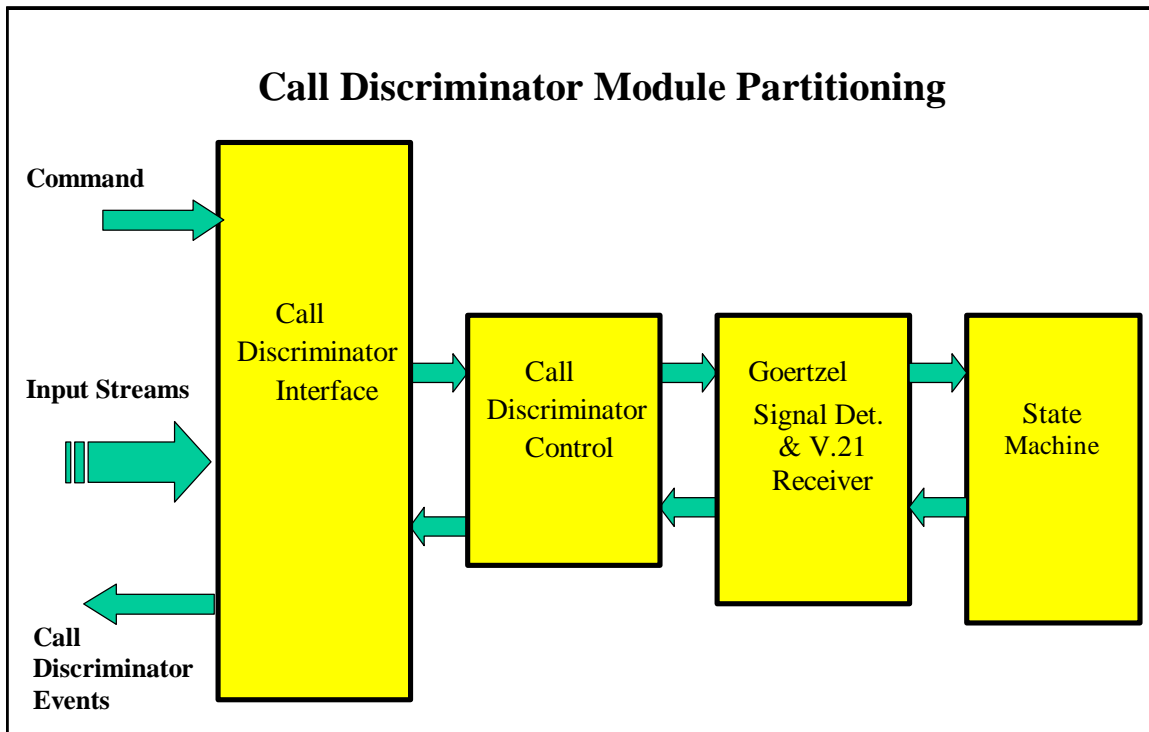
All voice calls may be eligible for compression. Yet, most fax and data modems do not tolerate compression functions well. It is, therefore, important to quickly classify these call streams and notify the controlling entity.

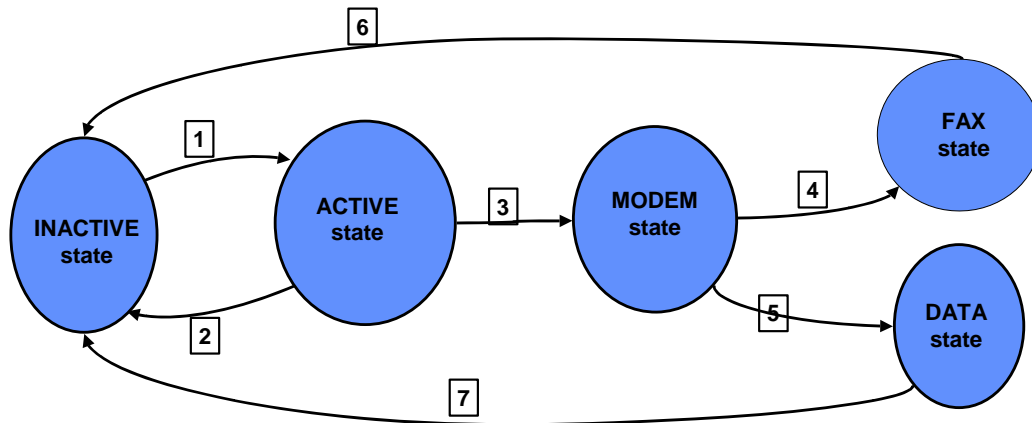
The Call Classifier is essentially a detector that can recognize a number of tones and other signals commonly associated with fax and data modems. It, then, drives a state machine used to determine whether a call can be classified as

a fax or data modem. Events are reported to the controlling entity so that it may reconfigure the call for fax relay (T.38 or I.366.2), modem relay (V.150), or fallback to G.711.

The CC assumes a call is voice unless there is “good reason to believe” that it is fax or data. The first step in such a determination is to detect any one of several different solid tones that indicate the presence of a modem call. The CC then attempts to qualify the call as a fax call, since G3 fax has easily discerned characteristics. If fax has not been detected prior to the expiration of a timer, the call is declared to be a data modem.

The CC is designed to classify a call quickly enough such that the controlling entity will have time to insert the appropriate relay





- 1--- call discriminator enabled
- 2--- call discriminator disabled
- 3--- solid tone detected
- 4--- HDLC flags detected by the V.21 receiver on downstream
- 5--- solid tone other than CED is detected or timer is up and no HDLC flags received.
- 6,7--- system goes back to INACTIVE state automatically when the ProcessMedia function is called next time after FAX or DATA is detected.

function into the call stream prior to onset of signals that must be acted upon by the relay.

data): 2100Hz, 2225Hz, 1800Hz, 2250Hz, 1300Hz, 1400Hz, 980Hz, 1200Hz, 600Hz, or 3000Hz.

Features

- Fast detection
- Accurate
- Efficient resource utilization
- Easy-to-use interface

Benefits

- Provide reliable transport by using call-specific call-stream processing
- Reduce development time
- Reduce development cost
- Documented maintainable technology

Tone Detection

A Goertzel algorithm is used to detect the solid tones that begin fax or data-modem calls. If any of the following tones are detected the CC state machine transitions to “modem” (fax or

Fax/Data Classification

Fax detection relies on the 1.5 seconds of HDLC flags that precede the answering fax terminal’s DIS frame. DIS is used by the answering terminal to declare its capabilities.

After a solid tone is detected, a V.21 receiver is used to detect the HDLC flags (01111110) in the preamble of DIS signal on the downstream side. If the required number of flags are detected, fax is reported. Otherwise, upon expiration of a timer, the call is declared to be a data modem.

Ordering

Call Classifier on C54 in XDAIS Format	60071-1
Call Classifier on C6x in XDAIS Format	60071-2

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