

Service Discovery Protocol

July 29, 1999

Akihiro Shimura

CANON INC.

Background

Current Draft (PPDT_r04.pdf as of July 6, 1999) specifies the SERVICE_DIRECTORY control operation in the section "8.3 Service discovery".

The service discovery protocol is independent of the syntax of the service descriptor ("SERVICE_ID"). The SERVICE_DIRECTORY request requests a list of SERVICE_ID parameters in a login context.

Current draft does not specify the way to retrieve a large list that does not fit into single buffer.

This document proposes a protocol that enables to retrieve such a large list without interfering the other control operations over the queue zero.

Summary of the Protocol

The protocol defines a new control function "SERVICE_DIRECTORY_INDIRECT" in addition to the "SERVICE_DIRECTORY" that has already been defined in the current draft.

The "SERVICE_DIRECTORY_INDIRECT" uses an ephemeral connection other than queue zero to deliver a large list of the "SERVICE_ID" parameters. The response for the existing "SERVICE_DIRECTORY" control is slightly modified to indicate buffer "overflow" condition.

The Service Discovery Protocol

If the SERVICE_DIRECTORY_INDIRECT request is received, the responder shall return a response with a "DEST_ID" parameter to which the CONNECT request for retrieving a list should be destined.

Note: The parameter "DEST_ID" is a new parameter I have already proposed in the document

["ftp://ftp.pwg.org/pub/pwg/p1394/mtg081699/DestId0799.pdf"](ftp://ftp.pwg.org/pub/pwg/p1394/mtg081699/DestId0799.pdf).

The requester shall perform a CONNECT operation to the DEST_ID on the responder, and the responder shall send a list of SERVICE_ID parameters in the format of control response on the

established connection. If the connection is aborted in the middle of the transfer, the list may be incomplete.

The responder may reuse the same "DEST_ID" value for other listening service if the responder does not receive a CONNECT request that specifies the "DEST_ID" within *TBD* seconds.

Note: The upper limit on the lifetime of the "DEST_ID" will need to be defined.

If the SERVICE_DIRECTORY request is received, the responder shall return SERVICE_DIRECTORY response with a list of SERVICE_ID parameters as specified in the current draft. If the entire list does not fit into single buffer, the responder shall truncate the list to fit in the buffer, and shall return the response with the *response* field value that indicates "overflow".

Note: An additional response code needs to be defined in the section 5.3 of the current draft.