



Printing Service definition

AEEC A834 subgroup
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Messaging and Printing definition activities – Status on 7th October

- A834-4 ACARS embedded Printing requests using ADBP mechanisms. As it was for Messaging Service, ADBP solution is not appropriate to manage printing services:
 - A print request cannot be managed as a parameter.
 - Retrieving methods 'cyclic', 'on event' are not adapted to manage asynchronous events.
- Specific subgroup initiated to define Messaging and Printing solution for EFB
 - Messaging Service defined and agreed by all participating partners. Will be finalized during Dubai EFB user forum.
 - Printing solution to be proposed so that it can be reviewed and validated during same EFB user forum.

Printing solution

Main needs (captured from last meeting A834 participating partners)

- Provide service to perform print requests on A429 printer.
- Print requests limited to text print (no graphic printing supported).

In line with:

- Initial proposal from A834-4 ADBP-based printing proposal
- airline needs reported by Sonja: « *Printing solution will be interesting when AOC will be hosted on EFB* »

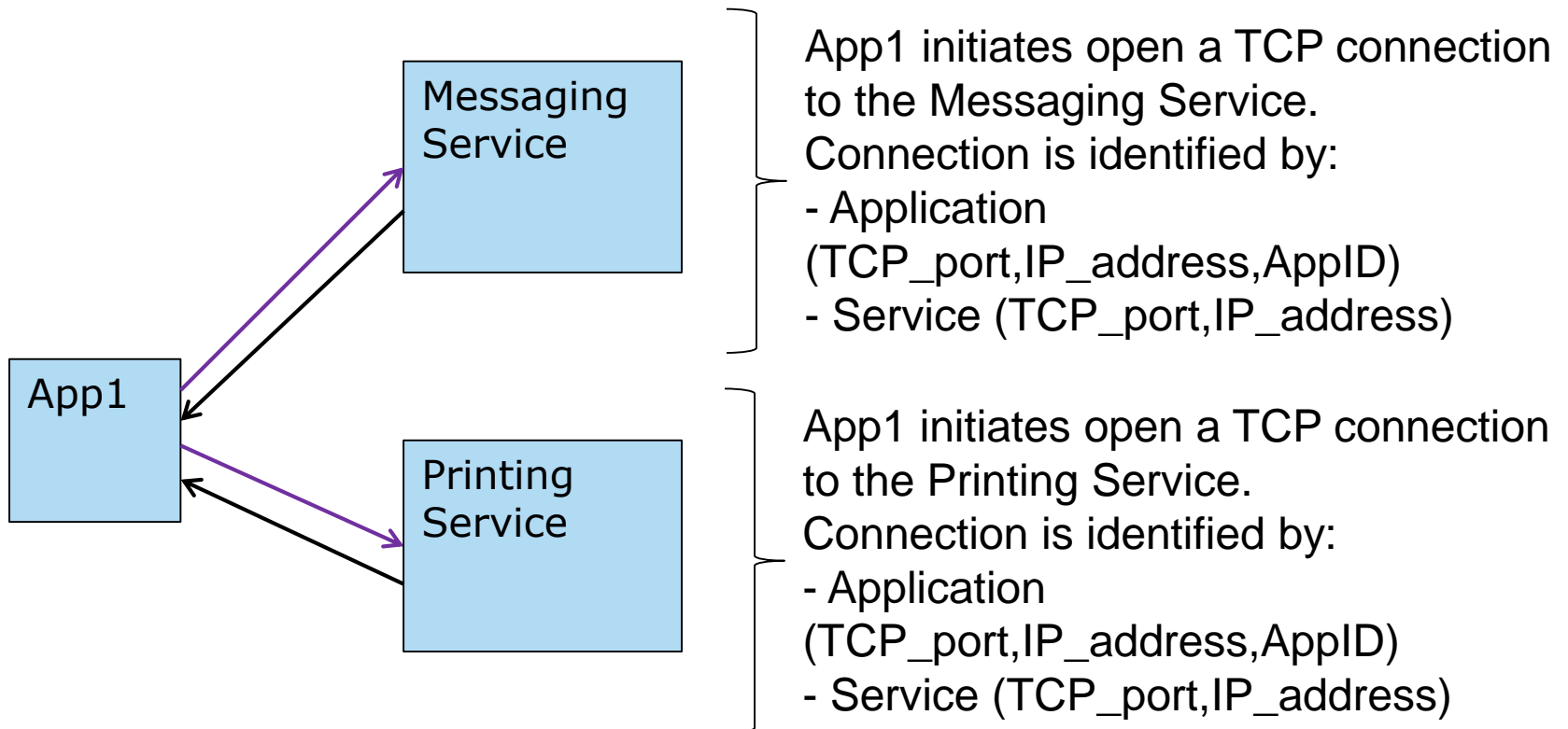
Need is limited to text print over A429 printer, no overlap with ethernet printing standardized solutions.

Different options

	Pros	Cons
<p>Messaging and Printing services provided through a unique interface (connection to a single TCP port + Service supporting Printing and Messaging requests)</p>	<p>- simplicity for applications connection: one single access to benefit from all messaging and printing services</p>	<p>- complex service primitives for applications needing to support complex exhaustive requests/responses: Register primitive should state need/dimensioning of both Printing and messaging Service, KeepAlive primitive complexified to report status of Messaging and Printing services. - complexity into a commonalized service to support all services for any client: Service dimensioned to support Messaging and Printing for any client → Most of applications would require one service or the other, but not both.</p>
<p>Specific sessions dedicated to Messaging or Printing (dedicated TCP port + Service restricted to Messaging or Printing service)</p>	<p>- application subscribing to dedicated service, optimizing resource allocation on Service side.</p>	<p>- 2 services on application side: application need to contact the dedicated Server for Printing or Messaging requests.</p>

→RC proposes to provide a specific service to support Printing services: Primitives will be closed to Messaging Service but performed on a dedicated TCP connection to a dedicated Printing service.

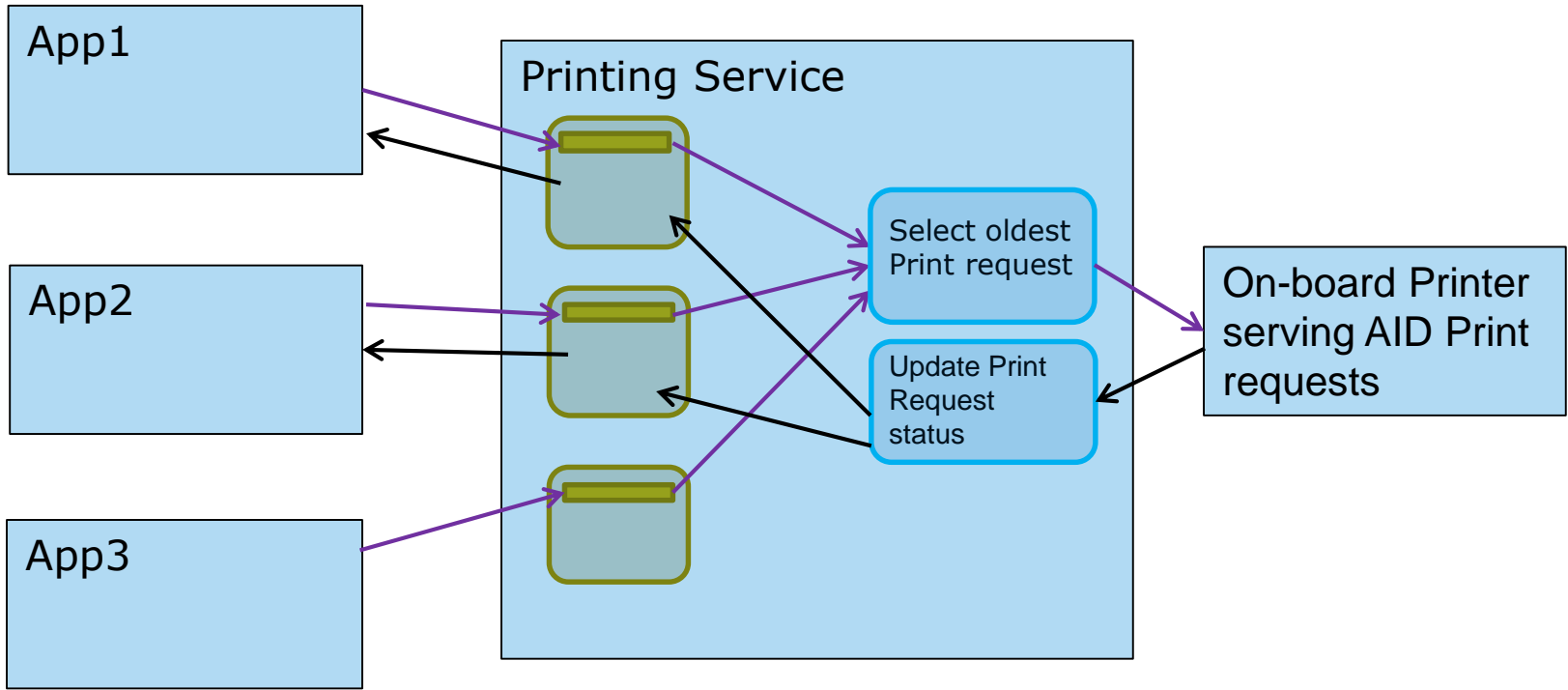
Messaging and Printing differentiation



Messaging and Printing Services are differentiated by specific Service TCP ports set for each service.

Requested Printing primitives

- Registering mechanism
 - Dynamic AppID mechanism kept from Messaging Service
 - No other parameter required
- Print requests
 - PRINT_REQ progress equivalent to DOWNLINK_REQ:
 - PRINT_REQ may precise Characters per line density (other Print options not supported)
 - PRINT_RSP informs application that request is buffered into Printing Service
 - PRINT_IND informs application that Printing request reached a final status: success or others...
 - One job/application at a given time
 - Provide Purge capability
- Printing Service Keep Alive
 - Printer status (from 350 label: Ready/Initi/buffer full/busy/etc.)
 - Printer capabilities (Characters per line supported densities)
- No need for Application Keep Alive (no equivalence with uplink delivery mechanism)
 - It is up to application to keep TCP connection active to recover PRINT_IND primitive.



Print Request toward 429 Printer

- Characters per line defined job by job (KeepAlive primitive informs of supported Characters per line densities)
- Applications need to use printable characters as defined into ARINC 740/744.
- Print options not provided to applications:
 - Data Type limited to Characters only
 - Color options not supported → Single color print provided
 - Font limited to a single choice of characters → Option to select characters font not supported