# Unified User Experience for App Based EFB

Overview by Alex Bratton CEO & Chief Geek, Lextech

# Goal for This Call

Evaluate updating/extending existing EFB standards to simplify the user experience for tablet based EFB apps.

User Experience Today

#### EFB



JeppFD-Pro

Southwest .

myMobile365



Southwest .

WSI Pilotbrief



Agent





CrewWeb



SWA Apps





SWA Pwd Mgr



SWALife Web



ETHOS



Southwest



FlightBoard



Jepp Trip Kit

CrewBid

SWAPA

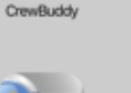
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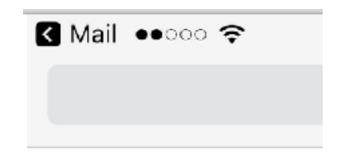




swalife SWALife

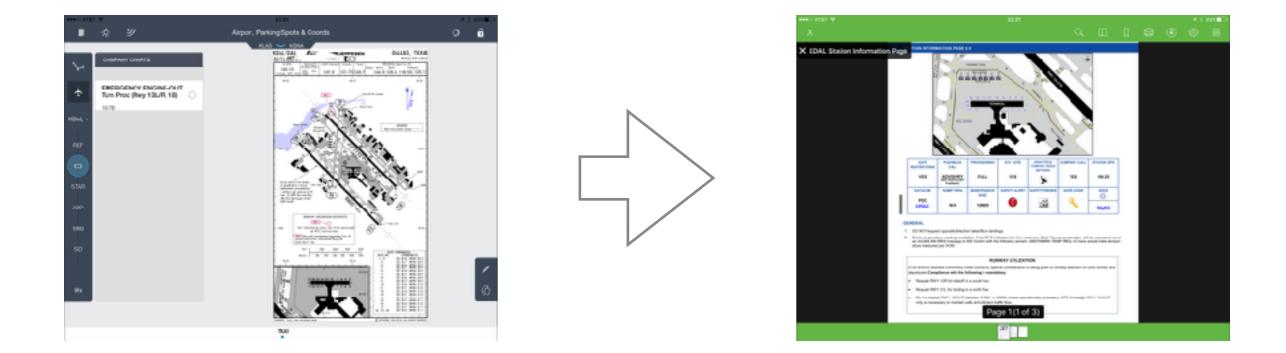
# Going back...

- 4 finger swipe
- Double tap home button, scroll between apps
- iOS 'back to' in upper left



# Ideal Cross App UX

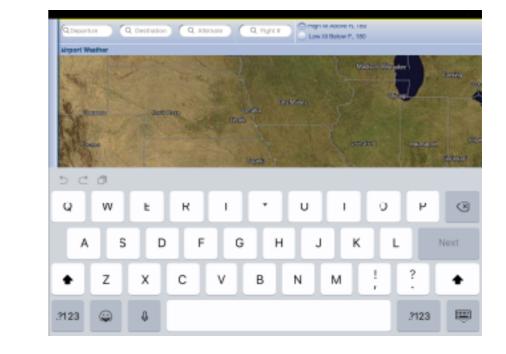
### Planning...



#### to Station Information

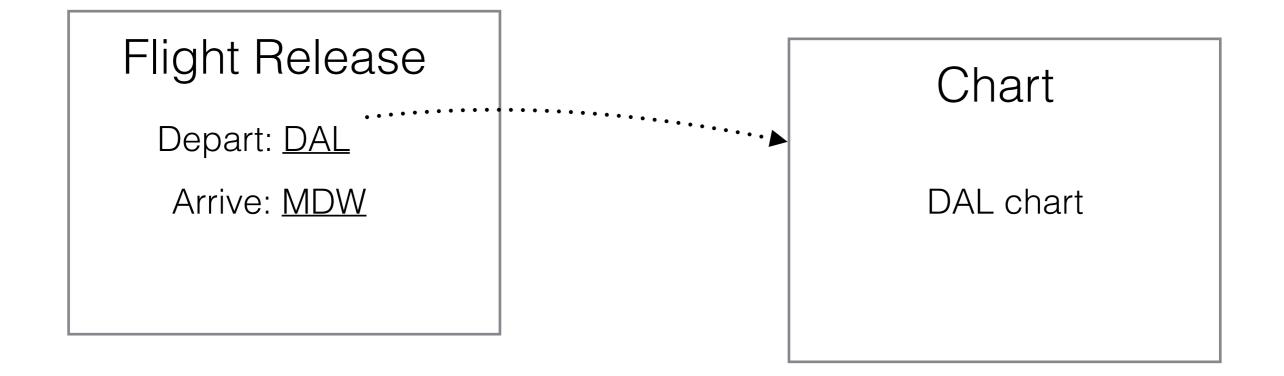
# Flight Release...

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| REMARKS.<br>NG KQUEP - KETS<br>NGCEPEGNAE FORE   | PCR EXP  | OUTE TURA   | LEVCE  |  |                           |                        |      |            |
| РСТ: 26: 9<br>55 накори и  |  |   |  |  |                           |                        |      |            |
| DEFART: NOAL/D<br>2/0 SEMN:  | AL ( 4   |   | IVE: NIC<br>5 lt   |  |                           | DIST:<br>ALIN 3        |      | PM         |
| PMS ATR ///STR P<br>FOAL ENGINE 1000   |  |   | PRESS FR   | 54   |                           |                        |      |            |
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| RECTORE  |  |   | LEVI 1950  | /+02 - PL  | 14440                     | 1 395                  |      |            |
| JUGI 200 NUBUA<br>NEL/CEL<br>NG LINKS<br>DUGL TONE<br>ENROTE BURN<br>CURTYFOLD<br>DUGT RUT   | P688<br>6128<br>6015<br>6015   | 0 1887/<br>200889<br>03+25<br>07+20<br>03125                                    | SHORE<br>ODW<br>76LD<br>1762   | 50809<br>084351<br>331573<br>107730  | 272756                    | 120-1                  |      |            |
| JULI 200 NURUA<br>NEL/CICL<br>NO LINES<br>PUEL YEAR<br>ENDOLE BUEN<br>DUEL RUE<br>DUEL RUE<br>ELTERNISTE<br>ELTERNISTE<br>ELTERNISTE   | PSA4<br>6128<br>8915<br>8815<br>8866<br>8926                                       | 0 1207/<br>02425<br>02425<br>02429<br>02429<br>02429<br>02429<br>02429<br>02429 | SPARE<br>ODW<br>PELD<br>170<br>PCR<br>TOW                                      | 5 080 7<br>2863 51<br>3355 73<br>1275 73<br>6281 55<br>5281 55<br>5287 57              | STORN<br>STORN            | 120-1                  | 10   |            |
| JULI 230 MURA<br>NEL/ITL.<br>NG LINES<br>DURA TINE<br>DURA TINE<br>DURA NUTA<br>ETTERNATE<br>NULARI TANGGUY<br>NULARI TANGGUY  | P6804<br>6128<br>9915<br>9915<br>9915<br>9915<br>9915<br>9916<br>9916<br>9916      | 0 1000//<br>M2D5009<br>D3+25<br>U/125<br>U/125<br>U/125<br>U/145<br>U/145       | STARC<br>ODE<br>7610<br>7610<br>7610<br>700<br>700<br>700<br>700<br>700<br>700 | 5 DHC P<br>21842 51<br>3355 73<br>1277 730<br>3284 50<br>1278 75<br>1256 70<br>1256 70 | S TOTAL<br>S PEN<br>POTAN | 120-1<br>04621<br>1912 | 0    |            |
| JULI 290 KURA<br>NEL/TEL<br>NG LINKS<br>RUEL YESE<br>BROCHE BLER<br>DER ANT<br>ETERNATE<br>KATHER<br>KATHER<br>NELKAR TENER<br>RELEAST<br>NELKAR TENER   | PEAN<br>6128<br>6215<br>6005<br>6005<br>6005<br>6005<br>6005<br>6005<br>6005<br>60 | 0 1889/0<br>M2 D5889<br>D3+25<br>U/429<br>U/429<br>U/426<br>U/446<br>02+55      | STARC<br>ODE<br>7610<br>7610<br>7610<br>700<br>700<br>700<br>700<br>700<br>700 | 5 DHC P<br>21842 51<br>3355 73<br>1277 730<br>3284 50<br>1278 75<br>1256 70<br>1256 70 | S TOTAL<br>S PEN<br>POTAN | 120-1<br>04621<br>1912 | 0    |            |
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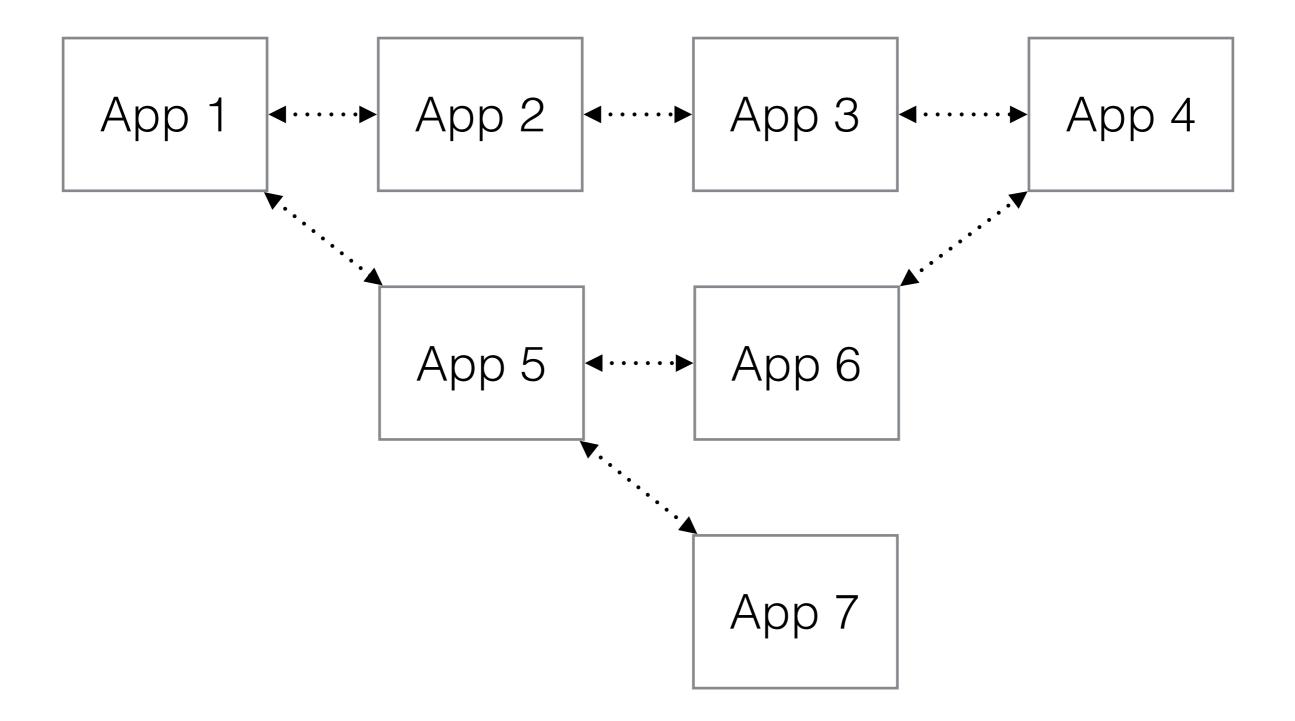


#### to Weather...

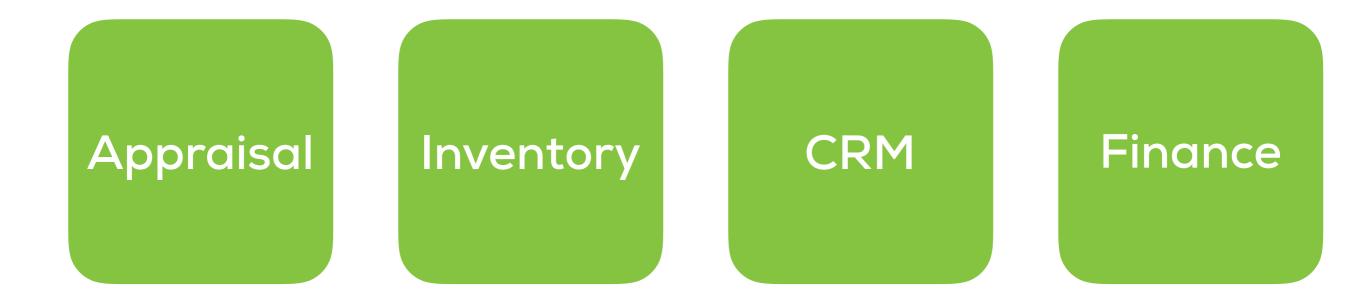
# App to App Flow



# Long Workflows



# Multi-App Workflow Ex



#### 98%

#### App Suite



Demo theGRID



Demo prope...

|     |   | _ |
|-----|---|---|
|     | 1 | - |
| 111 | - | - |
|     |   |   |

Demo summary



Demo stats



Demo RFP





Demo tour

Demo resume



Demo query



Demo broker

# Simple UX

- Consistent inter app navigation scheme for users
- Blends together multiple apps into a single workflow
- Provides for single data entry with data shared across apps

#### 840 Application Control Interface (ACI)

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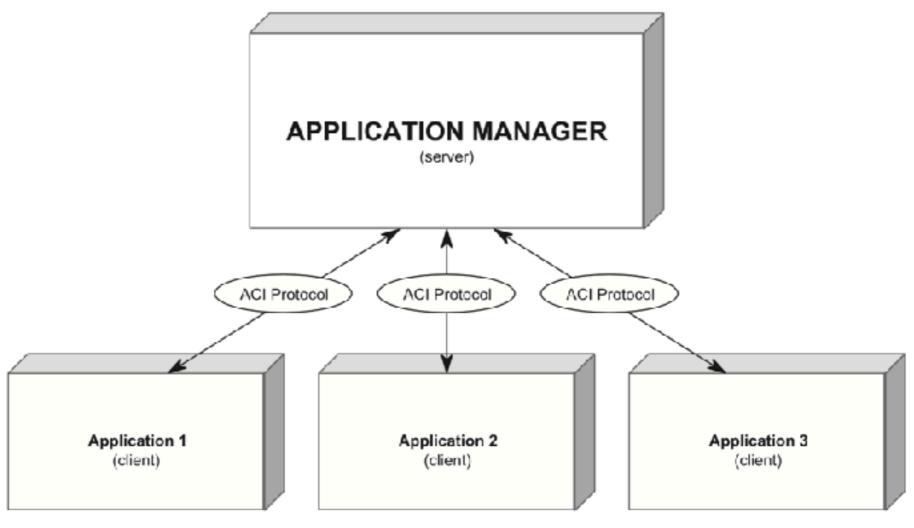


Figure 1-2 – ACI Architecture

#### 840 Application Control Interface (ACI)

5.0 ACI PROTOCOL

#### 5.1 ACI Link Layer: Network Sockets and TCP/IP

The ACI Link Layer is implemented using network sockets and the TCP/IP protocols. Used throughout the computer industry, TCP/IP connections enable lossless, stream-based bidirectional inter-process communication between the ACC and the application.

#### 840 ACI

- Client/server TCP/IP communication model
  - Per 1.5 "services are system capabilities provided using a network-based protocol"
- Data interchange, not user interface flow
- Issues with always on server/listeners & modern mobile operating systems

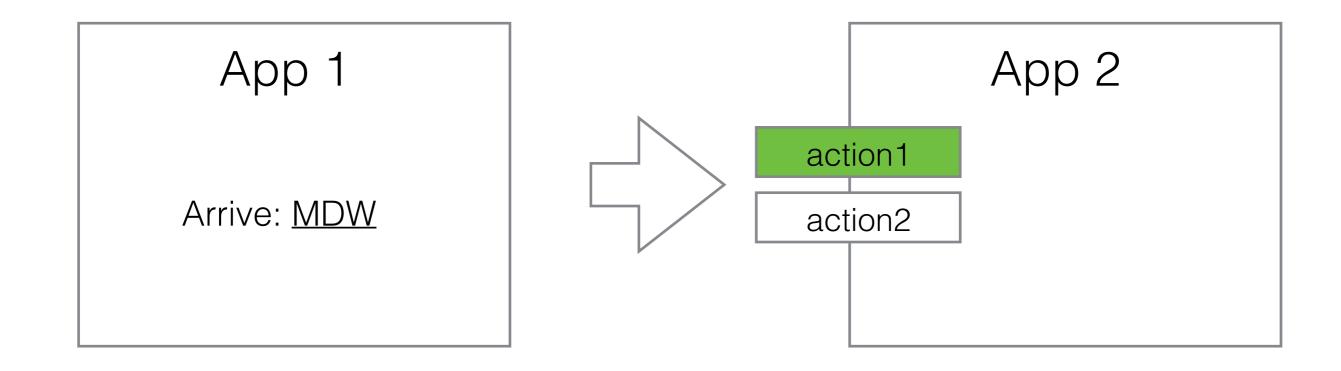
| Application Intent                   | Description                          | Details        |
|--------------------------------------|--------------------------------------|----------------|
| application/aeec.840-1.procedure     | terminal procedure viewer            | 6.1.1          |
| application/aeec.840-1.map           | enroute chart viewer                 | 6.1.2          |
| application/aeec.840-1.document      | document viewer                      | 6.1.3          |
| application/aeec.840-1.manual        | aircraft manual viewer               | 6.1.4          |
| application/aeec.840-1.mel           | minimum equipment list               | 6.1.5          |
| application/aeec.840-1.checklist     | checklist application                | 6.1.6          |
| application/aeec.840-1.video         | surveillance video application       | 6.1.7          |
| application/aeec.840-1.weightbalance | weight and balance                   | 6.1.8          |
| application/aeec.840-1.weather       | weather display                      | 6.1.9          |
| application/aeec.840-1.notam         | notice to airmen viewer              | <b>6.1.10</b>  |
| application/aeec.840-1.logbook       | maintenance logging utility          | 6.1.11         |
| application/aeec.840-1.groundtraffic | on ground traffic display            | 6.1.12         |
| application/aeec.840-1.airtraffic    | in air traffic display               | 6.1.12         |
| application/aeec.840-1.merging       | merging and spacing capability       | 6.1.12         |
| application/aeec.840-1.intrail       | in-trail procedures function         | 6.1. <b>12</b> |
| application/aeec.840-1.conflict      | runway conflict detection capability | 6.1. <b>12</b> |
| application/aeec.840-1.wake          | wake vortex hazard detection         | 6.1.12         |
| application/aeec.840-1.flightfolder  | electronic flight folder capability  | 6.1.13         |
| application/aeec.840-1.terrain       | terrain display                      | 6.1.14         |
| application/aeec.840-1.performance   | aircraft performance application     | 6.1. <b>15</b> |
| application/aeec.840-1.taxiposition  | taxi positional awareness            | 6.1.16         |
| application/aeec.840-1.faultfinder   | fault finder                         | 6.1.17         |
| application/aeec.840-1.eforms        | electronic forms                     | 6.1.18         |

#### Table 4-1 – Application Intent Types

#### Sample Approach

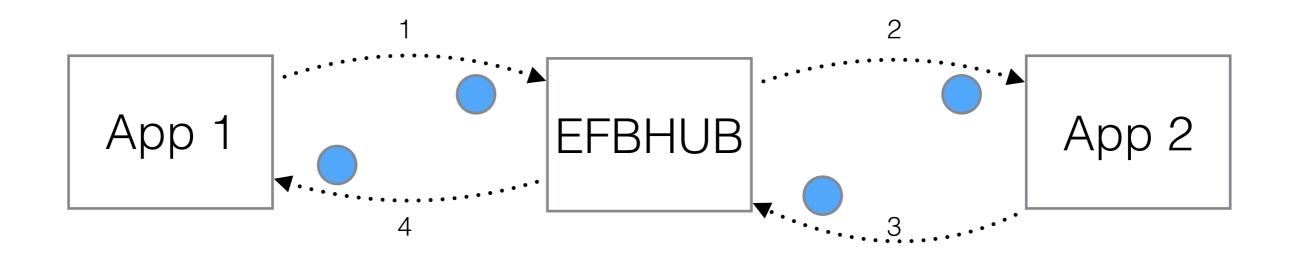
#### URL Handlers

### Hard Coded Handlers

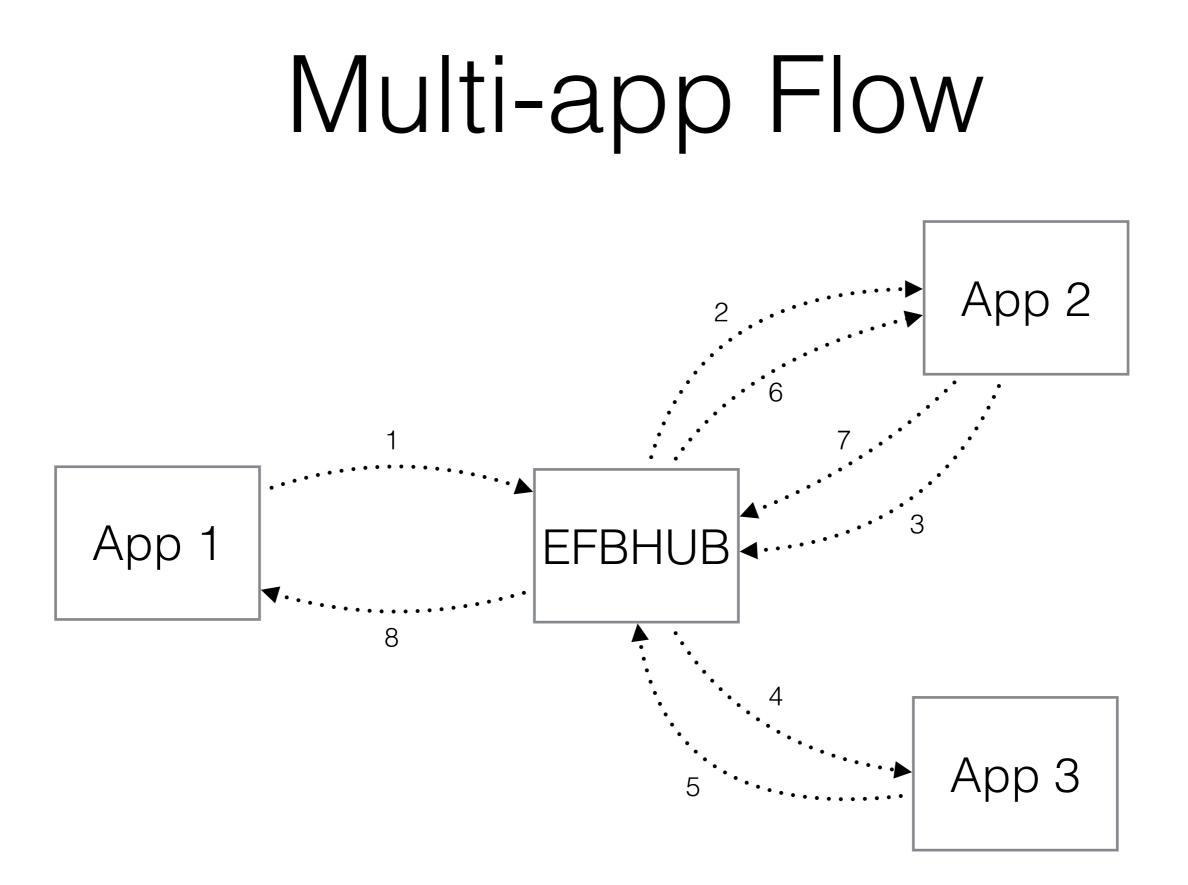


vendorABC-appXYZ-action123://datahere

# Two App Flow







# Key Question

Does updating/extending existing EFB standards to simplify the user experience for tablet based EFB apps make sense?