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Introduction

In RXTE parlance, an *Application* is a distinct source of telemetry from one of the spacecraft subsystems - the set of attitude errors from the ACS subsystem is an example. *Application IDs* are the numbers used to denote the various Applications.

You don't really need to know AppIds for your data analysis, but familiarity them will help you understand how your data relate to the original telemetry. In fact, the way files containing science and housekeeping data are organized at the subsystem level reflects the structure of the telemetry: data from the EA5 PCA Application, for example, end up after processing in one kind of file in the `pca` directory. Note, however, the following directories at the subsystem level, namely, `stdprod`, `clock`, `orbit` and `cal`, don't contain AppIds because they don't contain data that originate in telemetry.

Application IDs Sorted by Subsystem

- ACE - Attitude Control Electronics & star trackers
- ACS - Attitude Control System
- EDS - Experiment Data System housekeeping
- FDS - Flight Data System
- GSACE - Gimbals and Solar Array Control Electronics
- HEXTE - HEXTE science and housekeeping data
- IFOG - Interferometric Fibre Optics Gyroscope
- IPSDU - Instrument Power Switching and Distribution Unit
- PCA - PCA science and housekeeping data
- PSE - Power System Electronics
- SPSDU - Spacecraft Power Switching and Distribution Unit

PCA (Proportional Counter Array)

```
55  EA1
59  EA2
```

```
 63  EA3
 70  EA5      Standard1
 74  EA6      Standard2
 79  EA7
 90  PCU0 Hk
 91  PCU1 Hk
 92  PCU2 Hk
 93  PCU3 Hk
 94  PCU4 Hk
```

HEXTE (High Energy X-ray Timing Experiment)

```
 80  Cluster 0 Science data
 81  Cluster 0 Burst data
 82  Cluster 0 Archive data
 83  Cluster 0 16-s Hk
 84  Cluster 0 Calibration spectrum
 85  Cluster 1 Calibration spectrum
 86  Cluster 1 Science data
 87  Cluster 1 Burst data
 88  Cluster 1 Archive data
 89  Cluster 1 16-s Hk
251  Cluster 0 64-s Hk
252  Cluster 1 64-s Hk
253  Cluster 0 128-s Hk
254  Cluster 1 128-s Hk
```

ASM (All-Sky Monitor)

```
48  EA0 Position histograms
65  EA4 Multiple time series
```

EDS (Experiment Data System)

```
46     "AppId_046_EDS_Hk1"
47     "AppId_047_EDS_Hk2"
49     "AppID_049_EA0"
53     "AppID_053_EA1"
57     "AppID_057_EA2"
61     "AppID_061_EA3"
65     "AppID_065_EA4"
69     "AppID_069_EA5"
73     "AppID_073_EA6"
77     "AppID_077_EA7"
```

ACS (Attitude Control System)

```
14     "AppId_014_ACS_0"            Attitude
15     "AppId_015_ACS_1"            Attitude errors HGA cmd pos
```

16	"AppId_016_ACS_2"	Drift ephem momentum
17	"AppId_017_ACS_3"	Config status
18	"AppId_018_ACS_4"	Spare
19	"AppId_019_ACS_5"	Wheels S/A cmd
20	"AppId_020_ACS_6"	TDRS ephem FDC cnt
21	"AppId_021_ACS_7"	Cmd override
22	"AppId_022_ACS_8"	Statistics
23	"AppId_023_ACS_9"	CSS current wheel mom
24	"AppId_024_ACS_10"	FDC statistics
25	"AppId_025_ACS_11"	Spare
26	"AppId_026_UFLTR_1"	Residuals & update counters
27	"AppId_027_UFLTR_2"	Diagonals expected positions
28	"AppId_028_UFLTR_3"	Measured positions
29	"AppId_029_UFLTR_4"	Solar positions
30	"AppId_030_UFLTR_5"	Covariance matrix
31	"AppId_031_AM_Pkt"	ACS data for antenna manager
13	"AppId_013_ACS_Status_RT"	ACS s/w status
110	"AppId_110_ACS_Status_Sto"	
156	"AppId_156_ACS_RTEvt_A"	
157	"AppId_157_ACS_StoEvt_A"	
158	"AppId_158_ACS_RTEvt_B"	
159	"AppId_159_ACS_StoEvt_B"	

ACE (Attitude Control Electronics)

98	"AppId_098_ACE_Raw_A_Std"
99	"AppId_099_ACE_Raw_B_Std"
100	"AppId_100_ACE_HWHk_A_Std"
101	"AppId_101_ACE_HWHk_B_Std"
102	"AppId_102_ACE_SWStat_A_Std"
103	"AppId_103_ACE_SWStat_B_Std"
112	"AppId_112_ST_1_Data"
113	"AppId_113_ST_2_Data"
115	"AppId_115_ST_1_Diag"
116	"AppId_116_ST_2_Diag"
104	"AppId_104_ACE_Diag_A"
105	"AppId_105_ACE_Diag_B"
106	"AppId_106_ACE_SWMsg_A_RT"
107	"AppId_107_ACE_SWMsg_B_RT"
108	"AppId_108_ACE_SWMsg_A_Sto"
109	"AppId_109_ACE_SWMsg_B_Sto"
214	"AppId_214_ACE_Raw_A_Fast"
215	"AppId_215_ACE_Raw_B_Fast"
212	"AppId_212_ACE_HWHk_A_Fast"
213	"AppId_213_ACE_HWHk_B_Fast"
216	"AppId_216_ACE_SWStat_A_Fast"
217	"AppId_217_ACE_SWStat_B_Fast"
220	"AppId_220_ACE_Raw_A_Med"
221	"AppId_221_ACE_Raw_B_Med"
218	"AppId_218_ACE_HWHk_A_Med"
219	"AppId_219_ACE_HWHk_B_Med"
222	"AppId_222_ACE_SWStat_A_Med"
223	"AppId_223_ACE_SWStat_B_Med"
226	"AppId_226_ACE_Raw_A_Slow"
227	"AppId_227_ACE_Raw_B_Slow"
224	"AppId_224_ACE_HWHk_A_Slow"
225	"AppId_225_ACE_HWHk_B_Slow"
228	"AppId_228_ACE_SWStat_A_Slow"

```
229     "AppId_229_ACE_SWStat_B_Slow"
230     "AppId_230_ST_1_Fast"
231     "AppId_231_ST_2_Fast"
232     "AppId_232_ST_1_Slow"
233     "AppId_233_ST_2_Slow"
```

FDS (Flight Data System)

```
  1     "AppId_001_SC_MI_Fast"
  2     "AppId_002_SC_Norm_Fast"
  3     "AppId_003_SC_Stdby_Fast"
  4     "AppId_004_ACS_MI_Fast"
  5     "AppId_005_ACS_Norm_Fast"
  6     "AppId_006_ACS_Stdby_Fast"
  9     "AppId_009_SC_MI_Slow"
 10     "AppId_010_SC_Norm_Slow"
 11     "AppId_011_SC_Stdby_Slow"
 12     "AppId_012_ACS_MI_Slow"
 96     "AppId_096_ACS_Norm_Slow"
 97     "AppId_097_ACS_Stdby_Slow"
  0     "AppId_000_SC_Comm_Tpat"
  7     "AppId_007_SC_RTEvt_A"
  8     "AppId_008_SC_StoEvt_A"
147     "AppId_147_SC_RTEvt_B"
148     "AppId_148_SC_StoEvt_B"
178     "AppId_178_SC_MemDmp_A"
179     "AppId_179_SC_TblDmp_A"
180     "AppId_180_SC_MemDwl_A"
181     "AppId_181_SC_MemDmp_B"
182     "AppId_182_SC_TblDmp_B"
183     "AppId_183_SC_MemDwl_B"
184     "AppId_184_ACS_MemDmp_A"
185     "AppId_185_ACS_TblDmp_A"
186     "AppId_186_ACS_MemDwl_A"
187     "AppId_187_ACS_MemDmp_B"
188     "AppId_188_ACS_TblDmp_B"
189     "AppId_189_ACS_MemDwl_B"
 32     "AppId_032_SC_Comm_RawBusRead"
 33     "AppId_033_Instr_Comm_RawBusRead"
 95     "AppId_095_ACS_IFOG-Cmds"
```

GSACE (Gimbal & Solar Array Control Electronics)

```
190     "AppId_190_GSACE_A_Fast"
191     "AppId_191_GSACE_B_Fast"
192     "AppId_192_GSACE_A_Med"
193     "AppId_193_GSACE_B_Med"
194     "AppId_194_GSACE_A_Slow"
195     "AppId_195_GSACE_B_Slow"
```

IPSDU (Instrument Power Switching and Distribution System)

```
196     "AppId_196_IPSDU_A_Quick"
197     "AppId_197_IPSDU_B_Quick"
198     "AppId_198_IPSDU_A_Status"
199     "AppId_199_IPSDU_B_Status"
200     "AppId_200_IPSDU_A_Temp"
201     "AppId_201_IPSDU_B_Temp"
```

SPSDU (Spacecraft Power Switching and Distribution System)

```
 34     "AppId_034_SPSDU_1A_Quick"
 35     "AppId_035_SPSDU_1B_Quick"
 36     "AppId_036_SPSDU_1A_Status"
 37     "AppId_037_SPSDU_1B_Status"
 38     "AppId_038_SPSDU_1A_Temp"
 39     "AppId_039_SPSDU_1B_Temp"
 40     "AppId_040_Trans_A_Quick"
 41     "AppId_041_Trans_B_Quick"
121     "AppId_121_SPSDU_2A_Quick"
122     "AppId_122_SPSDU_2B_Quick"
123     "AppId_123_SPSDU_2A_Status"
124     "AppId_124_SPSDU_2B_Status"
125     "AppId_125_SPSDU_2A_Temp"
126     "AppId_126_SPSDU_2B_Temp"
```

PSE (Power System Electronics)

```
202     "AppId_202_PSE_A_Fast"
203     "AppId_203_PSE_B_Fast"
204     "AppId_204_PSE_A_Med1"
205     "AppId_205_PSE_B_Med1"
206     "AppId_206_PSE_A_Med2"
207     "AppId_207_PSE_B_Med2"
208     "AppId_208_PSE_A_Med3"
209     "AppId_209_PSE_B_Med3"
210     "AppId_210_PSE_A_Slow"
211     "AppId_211_PSE_B_Slow"
```

IFOG (Interferometric Fiber-Optices Gyroscope)

```
118     "AppId_118_IFOG_Data"
119     "AppId_119_IFOG_Hk1"
210     "AppId_120_IFOG_Hk2"
```

Application ID Lists Used for Processing

- **In XSDC for standard production processing:**

```
/*  Standard list of AppIds */
```

```
const int stdAppIds[] = {
       0,  1,  2,      4,  5,      7,  8,  9, 10,     12, 13, 14, 15,
      16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31,
      32, 33, 34, 35, 36, 37, 38, 39, 40, 41,                 46, 47,
      48, 49, 50, 51,     53, 54, 55,     57, 58, 59,     61, 62, 63,
      64, 65, 66, 67,     69, 70, 71,     73, 74, 75,     77, 78, 79,
      80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95,
      96,     98, 99,100,101,102,103,104,105,106,107,108,109,110,
     112,113,    115,116,    118,119,120,121,122,123,124,125,126,

                 147,148,                            156,157,158,159,

             178,179,180,181,182,183,184,185,186,187,188,189,190,191,
     192,193,194,195,196,197,198,199,200,201,202,203,204,205,206,207,
     208,209,210,211,212,213,214,215,216,217,218,219,220,221,222,223,
     224,225,226,227,228,229,230,231,232,233,            237,238,239,
     240,241,242,243,            247,248,249,    251,252,253,254,
0} ;
```

- **In SOF for real-time GO processing:**

```
14 15 16 17 20 24 70 74 82 88 90 91 92 93 94 237 238 239 240
241 242 243 251 252 253 254
```

- **In SOF for real-time TOO processing:**

```
1 14 15 55 59 63 70 74 79 80 82 83 84 85 86 88 90 91 92 93 94
237 238 239 240 241 242 243 251 252 253 254
```

Application ID List Used by Xtefilt

```
14 ACSESTQ1
14 ACSESTQ2
14 ACSESTQ3
14 ACSESTQ4
15 ACSMODESTAT
16 ACSSCPOSX
16 ACSSCPOSY
16 ACSSCPOSZ
16 ACSSCVELX
16 ACSSCVELY
16 ACSSCVELZ
17 ACSEARTHLAT
17 ACSEARTHLON
20 ACSLUNARX
20 ACSLUNARY
20 ACSLUNARZ
21 ACSALTITUDE
24 ACSEARTHX
24 ACSSUNX
24 ACSSUNY
24 ACSSUNZ
83 ctLldPm pm_0
89 ctLldPm pm_1
90 cmdhvXE cmdhvXE_PCU0
91 cmdhvXE cmdhvXE_PCU1
92 cmdhvXE cmdhvXE_PCU2
```

```
 93 cmdhvXE cmdhvXE_PCU3
 94 cmdhvXE cmdhvXE_PCU4
 90 hvXEon hvXEon_PCU0
 91 hvXEon hvXEon_PCU1
 92 hvXEon hvXEon_PCU2
 93 hvXEon hvXEon_PCU3
 94 hvXEon hvXEon_PCU4
 90 hvXErly hvXErly_PCU0
 91 hvXErly hvXErly_PCU1
 92 hvXErly hvXErly_PCU2
 93 hvXErly hvXErly_PCU3
 94 hvXErly hvXErly_PCU4
 90 evXEgood evXEgood_PCU0
 91 evXEgood evXEgood_PCU1
 92 evXEgood evXEgood_PCU2
 93 evXEgood evXEgood_PCU3
 94 evXEgood evXEgood_PCU4
251 hvD0 hvD0_0
251 hvD1 hvD1_0
251 hvD2 hvD2_0
251 hvD3 hvD3_0
252 hvD0 hvD0_1
252 hvD1 hvD1_1
252 hvD2 hvD2_1
252 hvD3 hvD3_1
```

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