

Updating the Emu Page One for EMTF

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After the Track Finder upgrade

The screenshot displays the Track Finder software interface with several monitoring panels and a data table. A red circle highlights the 'CSC Track Finder' panel, which shows various status indicators and a graph. A yellow arrow points to the 'CLCT*ALCT matched' header in the data table.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																	
ME+4/2	566529	15224	16468	15152	16888	15544	18965	20267	25043	26736	32136	26569	25048	20651	17497	14164	15950	14804	16693	14313	16358	13553	12813	9537	8518	9265	12008	10596	12920	11694	12137	8864	7025
ME+4/1	856500	46690	46690	50391		51400	47378		50568	46926	50150	46430		50327	46448		45558	48693		45558	48693		45558	48693		45558	48693		45558	48693		45558	48693
ME+3/2	225939	6461	6841	615	827	6191	7033	6667	7326	7037	7982	7031	7159	6668	6874	6159	6592	6068	6689	5030	6620	5986	6319	5462	5609	5452	6089	5532	6249	4396	6034	5284	5675
ME+3/1	1060879		58583		82760		57717		63535		58365		62305		45492		63086		54789		63533		57969		54789		57127		62560		56732	61513	
ME+2/2	171954	5396	4748	5183	4668	4235	4806	5382	4499	5205	4710	5211	4537	5198	4528	4164	4695	5226	4565	4268	4664	5183	4611	5098	4375	5018	4408	4978	4374	4963	4431	5037	4095
ME+2/1	2003098		117622		10553		92815		107510		117737		107132		117973		106929		118940		108727		119178		106656		117650		106774		116795		107446
ME+1/3	29922	901	878	813	12	822	826	850	885	951	853	824	835	861	861	897	764	812	892	844	840	818	858	815	834	753	755	766	757	825	787	800	846
ME+1/2	380360	11541	10567	11205	10117	11100	10662	11115	10074	11187	10551	11110	10165	11162	10396	11196	10051	11257	10757	11637	10348	8543	10486	11122	10074	10877	10163	10639	9736	10713	10003	9027	9972
ME+1/1	9340422	272096	248986	272174	259107	272448	246504	274730	253196	265920	253192	275042	245200	276166	253882	266407	251901	264189	253314	277756	242562	277317	250149	275931	246341	273489	249734	276769	247779	272763	251379	269527	237787
ME+	14635603	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
ME-1/1	5208577	164638	149069	163220	146174	140950	150077	162925	148764	162653	149452	163518	135365	159137	148015	163538	149766	163980	149253	164660	150904	159858	149935	129648	150157	139390	149946	161829	148730	163196	148064	162705	150329
ME-1/2	222633	6762	6261	6559	5805	6560	6170	6353	5783	6561	6073	6476	5920	6565	5942	6476	5892	6504	6201	6909	6120	6376	6049	6532	5833	6529	6116	6339	4481	6342	5919	6397	5854
ME-1/3	17025	489	506	471	504	482	538	489	505	474	506	526	537	454	514	282	508	492	544	544	559	493	196	487	450	205	470	473	432	438	525	491	493
ME-2/1	1121659		70646		63825		0		63747		69780		62874		70505		63239		56972		65100		70658		62942		70421		64011		68724		63815
ME-2/2	102066	2382	2744	3047	2669	246	2807	2961	2667	3089	2823	3177	2847	3217	2680	3063	2667	3055	2882	3207	2741	3000	2673	3104	2620	2827	2583	2359	2517	2863	2612	2904	2514
ME-3/1	625952		34295		37281		33683		37164		33836		36736		36974		36284		37659		34718		37264		37264		26438		36652		33342		37018
ME-3/2	1333315	3506	3962	3447	3874	3644	4217	3734	4278	4319	4673	4175	4206	4112	3854	3564	3794	3574	3899	3718	3898	3371	3674	3107	3317	3094	3569	3266	3582	3147	3477	3138	3289
ME-4/1	495740		22352		29812		27390		29772		27646		29538		27839		29909		27865		29935		22130		29614		26056		28596		21508		29150
ME-4/2	325296	8634	9262	9007	9758	8881	11223	11252	11666	15404	18445	14569	14223	9737	8702	10103	8466	9453	8190	9413	7996	7862	5348	5337	5211	7189	6677	7418	6654	7014	5255	5038	
ME-	8252263	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

ME-4 0 39681 ME-3 1 79260 ME-2 2 119029 ME-1 3 159710 ME+1 4 109208 ME+2 5 159710 ME+3 6 109208 ME+4 7 229077

After the upgrade there was no data shown on the Track Finder Panel

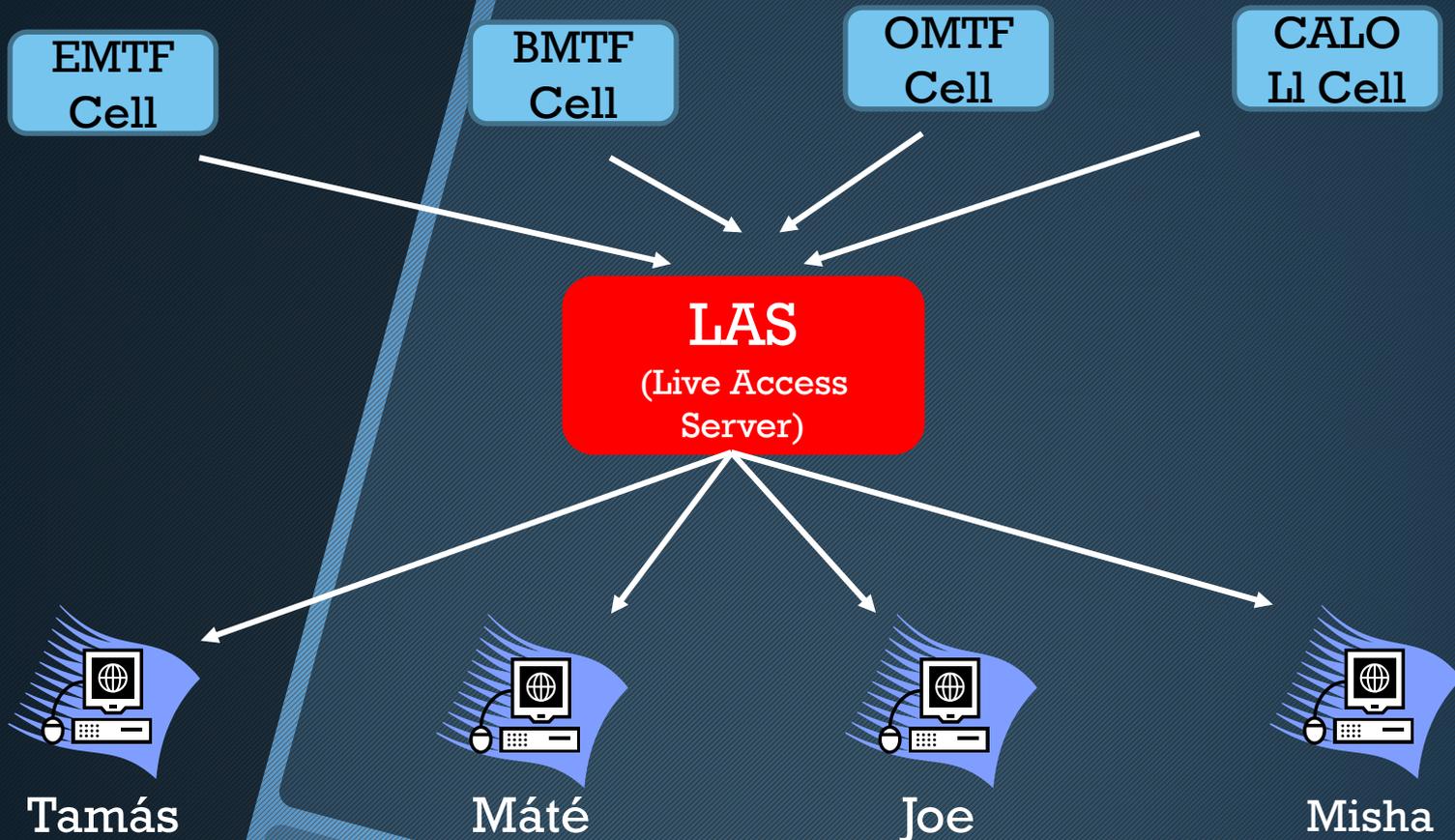
EMTF displayed

The screenshot displays the EMTF software interface with several key components:

- EMTF Status Panel (circled in red):** Shows the EMTF state as **running**. It includes a graph of Total track rate [kHz] and a table with columns for state, key, rates (min, total), and VME Access.
- Monitoring Panels:** Includes TCDS (LPM State: Configured), FED System (Errors: ME+ 0, ME- 0, TF 0), Local DAO (max rate: 271573710), and Local DQM (quality: 0.994).
- Data Table:** A table with columns for Time, Counter, Units, Refresh, and Scale. The 'Counter' column contains the text 'CLCT*ALCT matched'. The table lists various detector channels (ME+4/2 to ME-1/1) and their corresponding counts.
- Detector Views:** At the bottom, there are seven circular views of detector cells labeled ME-4, ME-3, ME-2, ME-1, ME+1, ME+2, ME+3, and ME+4. Each view shows a grid of detector elements with a central crosshair.

EMTF info is displayed with the minimum and total track rate and the state of the EMTF Cell (EMTF Key is yet to be done).

Monitoring in CMS



New Features in the Track Finder Panel

The screenshot displays the Track Finder Panel interface with several key components:

- Monitoring Panels:** Includes PCrate Manager, Blue Page Plus, Blue Page Minus, PCrate Monitor Plus, PCrate Monitor Minus, and Local DAQ disks. A red circle highlights the 'Key: 1000527' field in the PCrate Manager panel.
- Graphs:** Features 'Total track rate [kHz]' and 'dReset' plots. A yellow arrow points to the 'EMTF info' text, which is associated with a red circle around the EMTF-1 to EMTF-6 data in the table below.
- Table:** A large table showing trigger sector rates. A yellow arrow points to a 'Pop up window to show individual Trigger Sector Rates' text, which is associated with a red circle around the 'ME+4/2' row in the table.
- Visualizations:** At the bottom, there are seven circular diagrams representing trigger sectors ME-4, ME-3, ME-2, ME-1, ME+1, ME+2, ME+3, and ME+4. A coordinate system (x, y, z) is shown between ME-1 and ME+1.

Time	Sum	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18																			
ME+4/2	61295	1712	1907	1707	1860	1676	1685	2096	2756	2972	3474	2675	2791	31	2078	1534	1701	1719	1797	1574	1634	1531	1252	1087	863	1009	1179	1178	1328	1237	1188	975	786	941	1452	1584	1996	
ME+4/1	92860		4924		5927		536		5499		5132		5476		5509		5335		5103		5244		5100		5036		5249		4212		5469		5066		5160			
ME+3/2	19848	809	798	603	815	667	661	647	754		757	734	604	764	562	579	643	567	596	601	566	651	568	704	435	714	598	621	635	713	616	846						
ME+3/1	129459		5876		6013		6455		7159		33266		0		6973		6024		6470		6252		5770		6227		6558		6670		7062		6318		6366			
ME+2/2	18526	607	645	494	572	441	410	443	525	12	387	609	424	546	368	45	550	524	477	56	410	573	4	56	5	53	693	489	74	555	503	687	473	529	630	620	555	
ME+2/1	217388		12319		11256		10075		11536		11536		11536		11536		11536		11536		11536		11536		11536		11536		13040		12070		13028		11274			
ME+1/3	3289	145	102	70	90	85	62	100	124	62	145	77	138	117	57	118	99	86	91	94	128	113	59	127	72	84	86	42	58	104	107	73	142	64	101	98		
ME+1/2	41386	1262	1170	1193	1171	1278	1033	1093	1012	1256	1171	1219	1112	1339	1051	1158	1062	1236	1310	1363	1117	918	1073	1284	1106	1306	1000	1132	1072	1248	1137	826	1069	1088	1208	1183	1121	
ME+1/1	1009749	29485	26319	29649	26655	29288	26959	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	29229	27538	
ME+	1593800	1	2	3	4	5	6	7	8	9	10	11	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	
ME-1/1	0																																					
ME-1/2	0																																					
ME-1/3	0																																					
ME-2/1	157303		13039																																			
ME-2/2	15353	464	554																																			
ME-3/1	46883				7023		6236		6991		560	509	522	421	515	436	494	460	592	505	582	511	561	518	527	448	529	474	452	480	520	480	515	483	580	547	577	537
ME-3/2	9009				656		759		663		759		717	848	823	861	751	780	678	714																		
ME-4/1	0																																					
ME-4/2	0																																					
ME-	228548	1	2	3	4	5	6	7	8	9	10	11	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	

New Features in TCDS Panel

New TCDS Controller

Individual TCDS Controller States

Blue Page Plus		Blue Page Minu	
aded 9s ago	Values at 2017-05-31 01:33:25	Loaded 9s ago	Values at 2017
VME Access	Enabled	VME Access	
TCDS			
at Loaded 7s ago	Values at 2017-05-31 01:33:17	Loaded 8s ago	
LPM State	Configured	State	
CPM State	Enabled	Errors	
CSC PI and CI	Enabled	Config	ME
MUTFUP PI and CI	running	DCC	Total
Last HardReset	before 2017-05-31 01:		

Total primary CPM trigger [kHz] 47.6
7s ago
(time, value) at cursor

ici-cscm-pri:	Enabled
pi-cscm-pri:	Enabled
pi-cscp-pri:	Enabled
ici-cscp-pri:	Enabled

Values at 2017-05-29 15:24:34

TCDS	
State	Configured
Errors	Enabled
Config	Configured
DCC	running
reset	

MUTFUP TCDS ICI Cell: running
MUTFUP TCDS PI Cell: running

CPM trigger [Hz]

Counter	Sample
713	
709	
701	
701	

15:14:34 15:17:04 15:19:34 15:22:04 15:24:34 15:07:2
17-05-29 17-05-29 17-05-29 17-05-29 17-05-29 17-05-29

Program languages used

- HTML
- Asynchronous JavaScript
- SVG (Scalable Vector Graphics)

Summary

- Emu Page One enters the EMTF era
- Special thanks to:
 - L1 Trigger Software Group
 - System Administrators
 - CERN for the HSSIP (High-School Students Internship Programme)