

505D Control

Potential Rate Group Slip When Using Automated File Collection in AppManager

Issue

The potential for a Rate Group Slip exists when using the Automated File Collection feature in AppManager with a 505D Control.

Description

Control logic within the 505D runs in Rate Groups in order to guarantee control execution timing. If a section of code fails to execute within the Rate Group time, it is considered a Rate Group Slip, and an interrupt inactivates the control application and places the unit in IOLOCK. The effect of this action on a running turbine would be an immediate shutdown.

When Automatic File Collection is used in AppManager to access and download files from the control, it has been observed that a Rate Group Slip on the 505D Control can occur intermittently. A root cause analysis determined that a change in the VxWorks OS from Version 6.8 to 6.9 to a particular function call blocked the Rate Group thread, resulting in a Rate Group Slip.

Affected Units

8301-1535	8200-1300	8200-1301	8200-1301	8200-1302	20248705	20391859
20067262	20076093	19977638	20252662	20393738	20248706	20391860
8200-1300	20081738	19929718	19965193	19854418	20248707	20391861
20232769	20083694	19929719	20046150	20451407	20252549	20391862
19854409	20086859	19946603	20366279	19854414	20252550	20393735
19854410	20099854	19946604	20212241	19854415	20252551	20393736
19854411	20099855	20184839	20302440	19854416	20252552	20393737
20169113	20100890	20193395	20262227	19854417	20254241	20406226
20175463	20100891	20195844	20414917	20087244	20254242	20406227
20199981	20102535	20302443	20093618	20087245	20254243	20406228
20390203	20102536	20386112	20454918	20220347	20254244	20407953
20390205	20102537	20387987	20391865	20220349	20256874	20407954
20437249	20113840	20315453	20391866	20220350	20256875	20407955
20449869	20115782	20315454	20434449	20228531	20263785	20407956
20452917	20115786	20328496	20434450	20228532	20263786	20412466
20458416	20120483	20328497	20434451	20228533	20290039	20412469
19977637	20140670	20335579	20434452	20228534	20290040	20412470
20193394	20140671	20454915	20434453	20242467	20290041	20412471
20216113	20140672	20416540	20407952	20242468	20290042	20414921
20228526	20142363	20451406		20242469	20293990	20414935
20228527	20160182	20046149		20244426	20293991	20426269
20228528	20161619	20194405		20244427	20304191	20426270
20458415	20122295	20213779		20245957	20304194	20426271
20024665	20456503	20228529		20245958	20304195	20426272
20070477	20456504	20428154		20245959	20304196	20426273
20186343	20115781	20335578		20307038	20376151	20428155
20390204	20160183	20349320		20307039	20376152	20431531
20391864	20188747	20245956		20307040	20376153	20431532
20175462	19996785	19918112		20323458	20377581	20431533
20179878	20437252	20280352		20323459	20377582	20431534
20349319	20437253	20026481		20347952	20377583	20431535
19978872	20437250	20148233		20347953	20377584	20444303
20199982	20437251	20228530		20372343	20390201	20444304
20190817	20076092	20431530		20375290	20390202	20446951

				8200-1302		
				20446952	20446955	20449872
				20446953	20449870	20451408
				20446954	20449871	20220348

All units shipped with footprint 5418-6479_RevA (released February 12, 2016) will require an application update only. All units shipped with footprint 5418-6479_RevNEW will require both a footprint and application update.

Corrective Action

The corrective action was to change the function call being made from the Rate Group code, such that it no longer uses the particular VxWorks function that blocked the thread. This resulted in a change in the hardware footprint from 5418-6479_RevNEW to 5418-6479_RevA and an update to the Template/Coder version used to generate the control application from Flex1.00 to Flex1.01.

Customer Action

Affected Units can be updated in the field by following the Update Procedure in the Product Change Notification #06932

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