From:	Parker, Steve[/O=FUJITSU EXCHANGE ORGANIZATION/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C05AB063451849CE89F838011C3]
Sent:	Tue 19/03/2019 7:51:08 PM (UTC)
To:	Jonathan Gribben (jonathan.gribben@ GRO [jonathan.gribben@ GRO]
Cc:	Ibbett, Dave[Dave.Ibbett@ GRO]; Lenton, Matthew[Matthew.Lenton@ GRO]; Newsome, Pete[pete.newsome@ GRO]
Subject:	FW: Further counter injection analysis [WBDUK-AC.FID123822914]

Jonny,

See below for results of a search to try to identify Peaks for evidence of RR carrying out "remote access"

Peak	Access to Counters required?
PC0064128	N
PC0064404	N - dseddon536k - User error
PC0065422	Y - JBallantyne5328R
PC0067821	N - although shows that SSC did not have the ability of Bin2Txt then
PC0069428	N - although shows that SSC did not have the ability of Bin2Txt then
PC0070241	Y - Morgan3146Q
PC0070295	Y - although we used the Tivoli toolset to delete the training message store - GMaxwell291L
PC0070386	N - OBC POL not following closure procedure
PC0070983	N - Request to audit
PC0071912	N
PC0072437	N - Replication
PC0073492	N - Request to audit
PC0073739	N - LHulme5546K
PC0077887	Y - Delete message store - Then Swap
PC0082107	Y - JBallantyne1740R - New neighbours not detected.
PC0083168	N
PC0083193	N - MWright1541Q
PC0083677	N
PC0083774	Y - Message store deleted

PC0084623	N - AChambers232K
PC0084738	N
PC0085089	N
PC0085130	Y - Collecting logs - Wbragg1055Q
PC0085704	Y - Check all data replicated to CorrS
PC0087244	N
PC0087325	Y - Restart Riposte
PC0087629	Y - Deleted messagestore
PC0088816	N
PC0089032	N
PC0089947	N
PC0090006	N - Noted he found the PM difficult to deal with
PC0090662	Y - to identify where CRC failure is in messagestore.
PC0091053	N
PC0091059	N
PC0091291	N
PC0091299	N - RRoll537M
PC0091307	N - RRoll537M
PC0091496	N - RRoll537M
PC0091566	N - RRoll537M
PC0091665	N - RRoll537M
PC0092528	N - RRoll537M
PC0092716	N - RRoll537M
PC0092760	N - RRoll537M
PC0092784	N
PC0092822	N - RRoll537M

PC0093706	N
PC0094778	N - Counters returned to SSC
PC0095601	N - RRoll537M
PC0095607	N - RRoll537M
PC0096250	N
PC0096528	N
PC0096779	N - Check for marooned txns
PC0097893	N - RRoll537M
PC0097936	N - RRoll537M
PC0098327	N
PC0098335	Y - Mirror issue
PC0098344	N
PC0098898	N - RRoll537M
PC0098992	Y - Gateway inspection
PC0101764	N - RRoll537M
PC0102797	N
PC0103275	N - RRoll537M
PC0103956	Y - Recover messagestore from mirror
PC0104085	N
PC0104538	N - JBallantyne337J
PC0105264	Y - 1599 Transactions (inc 118 APS) inserted in to counter 2 message store
PC0106489	N
PC0106729	N

This list was created by searching for the following terms in any of Rolls updated:
"insert"
"recovery"
"delete"
"replicate"
"squirrel"

"service"
"messagestore"
"riposte"

From: Parker, Steve
Sent: Monday, March 18, 2019 5:08 PM
To: 'Jonathan Gribben' <jonathan.gribben@　GRO　>
Cc: Godeseth, Torstein <Torstein.O.Godeseth@　GRO　>; Ibbett, Dave <Dave.Ibbett@　GRO　>; Lenton, Matthew <Matthew.Lenton@　GRO　>; Newsome, Pete <pete.newsome@　GRO　>; Gareth Jenkins <gi.jenkins@　GRO　>; Lucy Bremner <lucy.bremner@　GRO　>
Subject: RE: Further counter injection analysis [WBDUK-AC.FID123822914]

Jonny,

1) Don't think we can achieve this with a search, might only be achievable via manual examination which is just too much work, but I've forwarded it on and see if anyone has any bright ideas.
2) SSC, yes a keyword search of KEL. SSC people tend to use more sophisticated searches than 2LS and hence get less hits back to consider.

Steve

From: Jonathan Gribben <jonathan.gribben@　GRO　>
Sent: Monday, March 18, 2019 12:50 PM
To: Parker, Steve <ParkerSP@　GRO　>
Cc: Godeseth, Torstein <Torstein.O.Godeseth@　GRO　>; Ibbett, Dave <Dave.Ibbett@　GRO　>; Lenton, Matthew <Matthew.Lenton@　GRO　>; Newsome, Pete <pete.newsome@　GRO　>; Gareth Jenkins <gi.jenkins@　GRO　>; Lucy Bremner <lucy.bremner@　GRO　>
Subject: RE: Further counter injection analysis [WBDUK-AC.FID123822914]

Steve,
Thank you for this – I will speak to the team about how we deploy this. Just to be clear, is the SSC looking at the period where Mr Roll was working for the SSC or for the whole of Legacy Horizon (the search at para. 29 of your second statement was originally described as covering the period that Mr Roll was working for the SSC and we corrected it because it actually related to the whole of Legacy Horizon)?

There are a few more points that we should be grateful for your help with:-

- please would someone (John Simpkins?) be able to devise a search for and send us a list of:-
  - Peaks/OCPs for evidence of RR carrying out "remote access" and send us a list of hits?
  - Peaks which show that SPMs reported issues said to have caused discrepancies of £250?
- when an incident comes in to the SSC, how to you find relevant KELs? Is it a keyword search or something more complicated? What about first and second line – how do they search for relevant KELs?

Kind regards
Jonny

Jonathan Gribben
Managing Associate
Womble Bond Dickinson (UK) LLP

d:	
m:	**GRO**
t:	
e:	

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From: ParkerSP@ **GRO** [mailto:ParkerSP@ **GRO**]
Sent: 18 March 2019 07:57
To: Jonathan Gribben
Cc: Torstein.O.Godeseth@ **GRO** ; Dave.Ibbett@ **GRO** ; Matthew.Lenton@ **GRO** ;
pete.newsome@ **GRO** ; Gareth Jenkins
Subject: Further counter injection analysis

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Jonny,

The SSC have been doing some more work to identify Peaks that show the SSC injecting transactions at the counter in legacy Horizon during the period that Mr Roll was working for the SSC.

You will recall that for my second statement we were asked to identify what kind of issues would result in the SSC injecting transactions at the counter. The information at para 29 in my second statement were obtained using the search terms: "RiposteMessageFile", "RiposteMessage", "LPO Delete", "Marooned", "RiposteObject put". The additional information below has been identified with additional search criteria devised when the original work came under increased scrutiny recently. To find this additional information the SSC technician searched for all KELs that mentioned the Riposte tools used to insert messages (RiposteMessageFile, RiposteImport, RiposteMessage), collated the KEL references, re-searched the Peak system for any Peaks which contained those KEL references and finally, read through all the narrative of the Peaks identified by the new search criteria. This was very time consuming but has revealed some new information:

Peaks	Statement Ref	
PC0105560, PC0106885	SP2 29.3	2 additional examples of correcting configuration data after a PinPad change.
PC0063599, PC0063871, PC0065796, PC0066061,	None: New type, reference data issue	Ref Data issues, possibly caused by Counter swaps, retaining versions of Ref Data that should be deleted. In these cases, the effect is that the Qty and Value of Stock items has got out of step. In order to fix this problem it was agreed that transactions were inserted to effectively Rem In the missing Qty, but have **no impact on the actual value of the**

		stock items. Such inserts had to be done at the counter. These all occurred in early 2001 and Peak PC0063599 indicates that the underlying issue of not detecting a problem during rollover was fixed in application version CI4
PC0083998 (also cross refers to PC0076029)	None:	Still a reference data issue but slightly different from the four above. In this case the issue is to do with Stock remaining for a withdrawn product after the Reference data has been removed. I think one of the "22 bugs" is related to this sort of scenario. Again there would have been messages inserted (though I'm not sure if they could be done at the CS rather than the counter) to address this issue. It isn't clear from the Peaks exactly what message were inserted. It may have just been the missing reference data. Note that both of these were picked up by SMC monitoring and not a SPMR phoning in

It is important that we consider these as well since they expose a new kind of issue where it may be necessary for the SSC to inject transactions at the counter, that of reference data problems. We believe that there will be more examples of counter insertions that have not been identified yet but it is becoming increasingly difficult and time consuming to identify others.

During the exercise SSC also identified three examples of the marooned transaction scenario described in SP2 38.2 (PC0068495, PC0099141, PC0079196) which may be useful to us if we need to quote examples later

Steve

Tools: RiposteMessageFile, RiposteImport, RiposteMessage
KEL references revealed: AChambers2226M, CObeng1029162824, DSeddon822M, MYoung5043M, RColeman1250R, acha2340K, ballantj498J, dsed344J, AHolmes3343J, DSeddon1753N, GMaxwell4614I, PCarroll1254I, RKing5135L, g1111, pcar847S, wbra716s

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