08. ShareConversations Values

Introduction on SHARECONV
01 >From IBM WebSphere MQ 7.0, each channel is defined by default to run up to 10 client conversations per channel instance
02> The features included are as below:
Bi-directional heartbeats
Administrator stop-quiesce
Read-ahead
Asynchronous-consume by client applications
03> for distributed servers, processing messages on channels that use the default configuration of 10 shared conversations is on average 15% slower than on channels that do not use shared conversations
04> On an MQI channel instance that is sharing conversations, all of the conversations on a socket are received by the same thread.
05> If the conversations sharing a socket are all busy, the conversational threads contend with one another to use the receiving thread. The contention causes delays, and in this situation using a smaller number of shared conversations is better.
06> You use the SHARECNV parameter to specify the maximum number of conversations to be shared over a particular TCP/IP client channel instance.
07> If you do not need shared conversations, there are two settings that give best performance in IBM MQ 8.0 or later:
SHARECNV(1) - It eliminates contention to use the receiving thread, and your client applications can take advantage of the new features added in IBM WebSphere MQ 7.0.
SHARECNV(0) - The channel instance behaves exactly as if it was an IBM WebSphere MQ 6.0 server or client connection channel, and you do not get the extra features such as bi-directional heartbeats that are available when you set SHARECNV to 1 or greater. Use a value of 0 only if you have existing client applications that do not run correctly when you set SHARECNV to 1 or greater.

SHARECNV(**0**)This value specifies no sharing of conversations over a TCP/IP socket. Only use a value of `0` if you have existing client applications that do not run correctly when you set SHARECNV to `1` or greater.

SHARECNV(**1**)This value specifies no sharing of conversations over a TCP/IP socket. Performance on distributed servers is similar to that for a value of `0`. Client heartbeating (whether in an MQGET call or not) and read ahead are available, and channel quiescing is more controllable.

SHARECNV(**2**) to SHARECNV(**999999999**)Each of these values specifies the number of shared conversations. If the client-connection SHAREC NV value does not match the server-connection SHARECNV value, then the lowest value is used. The default value is `SHARECNV(10)`, which specifies 10 threads to run up to 10 client conversations per channel instance. However, on distributed servers there are performance issues with SHARECNV channels that can be eased by using `SHARECNV(1)` wherever possible.

Note: If a server has clients connected to it that are sharing conversations over a socket, and you decrease the shared conversations setting from SHARECNV(10) to SHARECNV(1), this has the following effects:
Increased socket usage on the server.
Increased channel instances on the server.
In this case, you might also choose to increase the settings for **MaxChannels** and **MaxActiveChannels**.

BPH Project configuration - is set to SHARECONV[**10**] . We set to 0 in upgrade which has to be corrected when we have a fix or solution.

What happens when we set to 10 in upgrade - om.ibm.mq.jmqi.JmqiException: CC=2;RC=2195;AMQ9204: Connection to host '10.39.0.196 (1421)' rejected. [1=com.ibm.mq.jmqi.JmqiException[CC=2;RC=2195],3=10.39.0.196(1421),5=JmqiDefaultThreadPool.enqueue]

New mandatory settings in upgrade apart from existing by MQTeam

SSL Params @ QoP Settings	Existing	Upgrade
TLS Version	TLS v1	TLS v1.2
CIPHER	128	256
CLIENT AUTH	Required	None/Supported

about SHARECONV[0] or SHARECONV[10]
01. SHARECONVS not decided by Bank. WASND9 product team(IBM) to decide which should be the value[0 or 10].
02. Currently no info with us why we have 10 or 0 in different applications. like PSCS has 10 and LVSS has 0.
03. Did we discuss with Bank people> Yes, discussed with Jon. and we are suggested to go to IBM for clarity.
04. We will run different scenarios... and provide a
05. MQ Team members also to help us understand the significance of SHARECONVS value. The Default value is 10 and this is not working for upgrade.
06. Tune settings needed for SHARECONVS which may impact performance.

Table shows current configurations for Upgrade LVSS and PSCS

PSCS Environment	QCF	Qmanger	Host Name	Port	Channels	SHARECNV	Cipher	Console Auth	MQ Auth	Protocol
PSCS PROD Existing	PSCS_EXT_QCF	MQ266	mqhubactive-a.prd.bph.cba	1414	Q266.JUNO	10	128	Required	**Optional**	TLSv1
	PSCS_INT_QCF	MQ466	10.30.40.26	1414	Q466.JUNO	10				

	PSCS_RTTM_QCF	MQ166	mqhub-e.prd.bph.cba	1415	PSCS.CHANNEL	10				
PSCS SIT1 Existing	PSCS_EXT_QCF	MQAZ4	10.31.39.168	1447	QAZ4.BPHL3	10	128	Required	**Optional**	TLSv1.2
	PSCS_INT_QCF	MQMZ4	10.31.39.168	1450	QMZ4.JUNO	10				
	PSCS_RTTM_QCF	MQFZ4	10.31.39.168	1449	QFZ4.BPHL3	0				
PSCS NFT Existing	PSCS_EXT_QCF	MQC66	mqhubactive-a.nft.bph.cba	1414	PSCS.CHANNEL	10	256	Required	**Optional**	TLSv1.2
	PSCS_INT_QCF	MQJ66	10.30.40.89	1414	PSCS.CHANNEL	10				
	PSCS_RTTM_QCF	MQB66	mqhub-e.nft.bph.cba	1415	PSCS.CHANNEL	10				
PSCS STG Existing	PSCS_EXT_QCF	MQE66	mqhub-st-a.stg.bph.cba	1414	QE66.BPH	10	128	Required	**Optional**	**TLSv1**
	PSCS_INT_QCF	**MQF66**	mqhub-st-a.stg.bph.cba	1415	**QF66.BPH**					
	PSCS_RTTM_QCF	**MQEZ4**	10.31.39.168	1456	**PSCS.CHANNEL**					
PSCS SIT1 Upgrade	PSCS_EXT_QCF	MQAZ4	10.31.39.168	1447	PSCS2.CHANNEL	0	256	Required	Required	TLSv1.2
	PSCS_INT_QCF	MQMZ4	10.31.39.168	1450	PSCS2.CHANNEL	0				
	PSCS_RTTM_QCF	MQFZ4	10.31.39.168	1449	PSCS.CHANNEL	0				
PSCS NFT Upgrade	PSCS_EXT_QCF	MQC66	mqhubactive-a.nft.bph.cba	1414	PSCS2.CHANNEL	0	256	Required	Required	TLSv1.2
	PSCS_INT_QCF	MQJ66	10.30.40.89	1414	PSCS2.CHANNEL	0				
	PSCS_RTTM_QCF	MQB66	mqhub-e.nft.bph.cba	1415	PSCS2.CHANNEL	0				

LVSS Environment	QCF	Qmanger	Host Name	Port	Channels	SHARECNV	Cipher	Console Auth	MQ Auth	Protocol
LVSS Prod	INT	MQ266	mqhubactive-a.prd.bph.cba	1414	Q266.BPH	0	128		**Optional**	
	EXT	MQ366			Q366.BPH	0				
LVSS SIT2 Existing	INT	MQAZ4	10.31.39.168	1447	QAZ4.BPHL3	10	128	None	**Optional**	TLSv1.2
	EXT	MQFZ4	10.31.39.168	1449	QFZ4.BPHL3	0				
LVSS NFT Existing	INT	MQD66	mqhubactive-b.nft.bph.cba	1415	QD66.BPH	0	128	None	**Optional**	TLSv1.2
	EXT	MQC66	mqhubactive-a.nft.bph.cba	1414	QC66.BPH	0				
LVSS STG Existing	INT	MQF66	10.30.40.136	1415	QF66.BPH					
	EXT	MQE66	mqhub-st-a.stg.bph.cba	1414	QE66.BPH	10	128	None	**Optional**	TLSv1.2
LVSS SIT1 Upgrade	INT	MQAZ4	10.31.39.168	1447	LVSS. CHANNEL	0	256	Required	Required	TLSv1.2
	EXT	MQFZ4	10.31.39.168	1449	LVSS. CHANNEL	0				
LVSS NFT Upgrade	INT	MQD66	mqhubactive-b.nft.bph.cba	1415	LVSS. CHANNEL	0	256	Required	Required	TLSv1.2
	EXT	MQC66	mqhubactive-a.nft.bph.cba	1414	LVSS. CHANNEL	0				