Start of System

Server	-	**Client A**	Comment
SC=None	(Csc=0)	last_sync=0	No sync count.
Ssc=None		obj=None	No objects.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear as zero.

Local Change

Server	-	**Client A**	
SC=None	(Csc=0)	last_sync=0	Client A creates an object
Ssc=None		sid=0,ls=0,lc=1	locally.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**	
SC=1,isC=0	last_sync=0	last_sync=0	Session started.
Ssc=1	sid=0,ls=0	sid=0,ls=0,lc=1	Ssc is issued outside of
Obj=None			the data transaction.
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	>>>	**Client A**	
SC=1,isC=1	Csc=1	last_sync=1	New object will be committed
Ssc=None	id=1,lS=1	sid=1,ls=1,lc=0	due to provided sid=0.
id=1,lS=1			Session is marked committed.
	-	**Client B**	Whole objects are returned
	(Csc=1)	last_sync=0	where lS > last_sync.
		obj=None	Csc would appear changed.

Start Download Phase

Server	<<<	**Client A**	
SC=1,isC=1	last_sync=1	last_sync=1	Client A download phase.
Ssc=None		sid=1,ls=1,lc=0	Client sends last_sync.
id=1,lS=1			
	-	**Client B**	
	(Csc=1)	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	>>>	**Client A**	
SC=1,isC=1	Csc=1	last_sync=1	Server returns objects where
Ssc=None	Obj=None	sid=1,ls=1,lc=0	lS > last_sync.
id=1,lS=1			
	-	**Client B**	
	(Csc=1)	last_sync=0	
		obj=None	Csc would appear unchanged.

Start Download Phase

Server	-	**Client A**	
SC=1,isC=1	(Csc=1)	last_sync=1	Client B download phase.
Ssc=None		sid=1,ls=1,lc=0	Client sends last_sync.
id=1,lS=1			
	<<<	**Client B**	
	last_sync=0	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	-	**Client A**	
SC=1,isC=1	(Csc=1)	last_sync=1	Server returns objects where
Ssc=None		sid=1,ls=1,lc=0	lS > last_sync.
id=1,lS=1			
	>>>	**Client B**	
	Csc=1	last_sync=1	
	id=1,lS=1	sid=1,ls=1,lc=0	Csc would appear unchanged.

Local Change

Server	-	**Client A**	
SC=1,isC=1	(Csc=1)	last_sync=1	Client A changes object
Ssc=None		sid=1,ls=1,lc=1	locally.
id=1,lS=1			
	-	**Client B**	
	(Csc=1)	last_sync=1	
		sid=1,ls=1,lc=0	Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**	
SC=2,isC=0	last_sync=1	last_sync=1	Session started.
Ssc=2	sid=1,ls=1	sid=1,ls=1,lc=1	Ssc is issued outside of
id=1,lS=1			the data transaction.
	-	**Client B**	
	(Csc=1)	last_sync=1	
		sid=1,ls=1,lc=0	Csc would appear unchanged.

Server		Client A	
SC=2,isC=1	>>>	last_sync=2	Object committed due to
Ssc=None	Csc=2	sid=1,ls=2,lc=0	provided ls >= lS.
id=1,lS=2	id=1,lS=2		Session is marked committed.
			Whole objects are returned
	-	Client B	where lS > last_sync.
	(Csc=2)	last_sync=1	
		sid=1,ls=1,lc=0	Csc would appear changed.

Local Change

Server		Client A	
SC=2,isC=1	-	last_sync=2	Local change made to old
Ssc=None	(Csc=2)	sid=1,ls=2,lc=0	version of object.
id=1,lS=2			
	-	Client B	
	(Csc=2)	last_sync=1	
		sid=1,ls=1,lc=1	Csc would appear unchanged.

Start Upload Phase

Server		Client A	
SC=3,isC=0	-	last_sync=2	Session started.
Ssc=3	(Csc=2)	sid=1,ls=2,lc=0	Ssc is issued outside of
id=1,lS=2			the data transaction.
	<<<	Client B	
	last_sync=1	last_sync=1	
	sid=1,ls=1	sid=1,ls=1,lc=1	Csc would appear unchanged.

Server		Client A	
SC=3,isC=1	-	last_sync=2	Object is not committed due
Ssc=None	(Csc=3)	sid=1,ls=2,lc=0	to NOT ls >= lS.
id=1,lS=2			Session is marked committed.
	>>>	Client B	Whole objects are returned
	Csc=3	last_sync=3	where lS > last_sync.
	id=1,lS=2	sid=1,ls=2,lc=0	Possible notice to user: Sync returned new versions some local changes disgarded.
			Csc would appear changed. Sync before making changes to avoid this.

Local Change

Server		Client A	
SC=3,isC=1	-	last_sync=2	Local change made to current
Ssc=None	(Csc=3)	sid=1,ls=2,lc=0	version of object.
id=1,lS=2			
	-	Client B	
	(Csc=3)	last_sync=3	
		sid=1,ls=2,lc=1	Csc would appear unchanged.

Start Upload Phase

Server		Client A	
SC=4,isC=0	-	last_sync=2	Session started.
Ssc=4	(Csc=3)	sid=1,ls=2,lc=0	Ssc is issued outside of
id=1,lS=2			the data transaction.
	<<<	Client B	
	last_sync=3	last_sync=3	
	sid=1,ls=2	sid=1,ls=2,lc=1	Csc would appear unchanged.

Server		Client A	
SC=4,isC=1	-	last_sync=2	Object is committed due to
Ssc=None	(Csc=4)	sid=1,ls=2,lc=0	provided ls >= lS.
id=1,lS=4			Session is marked committed.
	>>>	Client B	Whole objects are returned
	Csc=4	last_sync=4	where lS > last_sync.
	id=1,lS=4	sid=1,ls=4,lc=0	Csc would appear changed.

Start Download Phase

Server		Client A	
SC=4,isC=1	<<<	Client A	Client A download phase.
Ssc=None	last_sync=2	last_sync=2	Client sends last_sync.
id=1,lS=4		sid=1,ls=2,lc=0	
	-	Client B	
	(Csc=4)	last_sync=4	
		sid=1,ls=4,lc=0	Csc would appear unchanged.

Server		Client A	
SC=4,isC=1	>>>	Client A	Server returns objects where
Ssc=None	Csc=4	last_sync=4	lS > last_sync.
id=1,lS=4	id=1,lS=4	sid=1,ls=4,lc=0	
	-	Client B	
	(Csc=4)	last_sync=4	
		sid=1,ls=4,lc=0	Csc would appear unchanged.

Start of System

Server	-	**Client A**
SC=None	(Csc=0)	last_sync=0
Ssc=None		obj=None
Obj=None		
	-	**Client B**
	(Csc=0)	last_sync=0
		obj=None

Comment

No sync count.
No objects.

Csc would appear as zero.

Local Change

Server	-	**Client A**
SC=None	(Csc=0)	last_sync=0
Ssc=None		sid=0,ls=0,lc=1
Obj=None		
	-	**Client B**
	(Csc=0)	last_sync=0
		obj=None

Client A creates an object locally.

Csc would appear unchanged.

Local Change

Server	-	**Client A**
SC=None	(Csc=0)	last_sync=0
Ssc=None		sid=0,ls=0,lc=1
Obj=None		
	-	**Client B**
	(Csc=0)	last_sync=0
		sid=0,ls=0,lc=1

Client B creates an object locally.

Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**
SC=1,isC=0	last_sync=0	last_sync=0
Ssc=1	sid=0,ls=0	sid=0,ls=0,lc=1
Obj=None		
	-	**Client B**
	(Csc=0)	last_sync=0
		sid=0,ls=0,lc=1

Session started.
Ssc is issued outside of the data transaction.

Csc would appear unchanged.

Start Upload Phase

Server	-	**Client A**
SC=1,isC=0	(Csc=0)	last_sync=0
SC=2,isC=0		sid=0,ls=0,lc=1
Ssc=2		
Obj=None		
	<<<	**Client B**
	last_sync=0	last_sync=0
	sid=0,ls=0	sid=0,ls=0,lc=1

Session started.
Ssc is issued outside of the data transaction.

Csc would appear unchanged.

Server	>>>	**Client A**
SC=1,isC=1	Csc=1	last_sync=1
SC=2,isC=0	id=1,lS=1	sid=1,ls=1,lc=0
Ssc=None		
id=1,lS=1	-	**Client B**
	(Csc=1)	last_sync=0
		sid=0,ls=0,lc=1

New object will be committed due to provided sid=0.
Session is marked committed.
Whole objects are returned where lS > last_sync.

Csc would appear changed.

Server	-	**Client A**
SC=1,isC=1	(Csc=2)	last_sync=1
SC=2,isC=1		sid=1,ls=1,lc=0
Ssc=None		
id=1,lS=1	>>>	**Client B**
id=2,lS=2	Csc=2	last_sync=2
	id=1,lS=1	sid=1,ls=1,lc=0
	id=2,ls=2	sid=2,ls=2,lc=0

New object will be committed due to provided sid=0.
Session is marked committed.
Whole objects are returned where lS > last_sync.

Csc would appear changed.

Local Change

Server	-	**Client A**
SC=1,isC=1	(Csc=2)	last_sync=1
SC=2,isC=1		sid=1,ls=1,lc=1
Ssc=None		
id=1,lS=1	-	**Client B**
id=2,lS=2	(Csc=2)	last_sync=2
		sid=1,ls=1,lc=0
		sid=2,ls=2,lc=0

Client A changes an object locally.

Csc would appear unchanged.

Local Change

Server	-	**Client A**
SC=1,isC=1	(Csc=2)	last_sync=1
SC=2,isC=1		sid=1,ls=1,lc=1
Ssc=None		
id=1,lS=1	-	**Client B**
id=2,lS=2	(Csc=2)	last_sync=2
		sid=1,ls=1,lc=1
		sid=2,ls=2,lc=0

Client B changes the same object locally.

Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**
SC=3,isC=0	last_sync=1	last_sync=1
Ssc=3	sid=1,ls=1	sid=1,ls=1,lc=1
id=1,lS=1		
id=2,lS=2		
	-	**Client B**
	(Csc=2)	last_sync=2
		sid=1,ls=1,lc=1
		sid=2,ls=2,lc=0

Session started.
Ssc is issued outside of the data transaction.
Trailing committed SC rows are deleted.

Csc would appear unchanged.

Start Upload Phase

Server	-	**Client A**
SC=3,isC=0	(Csc=2)	last_sync=1
SC=4,isC=0		sid=1,ls=1,lc=1
Ssc=4		
id=1,lS=1		
id=2,lS=2	<<<	**Client B**
	last_sync=2	last_sync=2
	sid=1,ls=1	sid=1,ls=1,lc=1
		sid=2,ls=2,lc=0

Session started.
Ssc is issued outside of the data transaction.

Csc would appear unchanged.

Server	>>>	**Client A**
SC=3,isC=1	Csc=3	last_sync=3
SC=4,isC=0	id=1,lS=3	sid=1,ls=3,lc=0
Ssc=None	id=2,ls=2	sid=2,ls=2,lc=0
id=1,lS=3		
id=2,lS=2	-	**Client B**
	(Csc=3)	last_sync=2
		sid=1,ls=1,lc=1
		sid=2,ls=2,lc=0

Object will be committed due to ls >= lS.
Session is marked committed.
Whole objects are returned where lS > last_sync.

Csc would appear changed.

Server	-	**Client A**
SC=3,isC=1	(Csc=4)	last_sync=3
SC=4,isC=1		sid=1,ls=3,lc=0
Ssc=None		sid=2,ls=2,lc=0
id=1,lS=3		
id=2,lS=2	>>>	**Client B**
	Csc=4	last_sync=4
	id=1,lS=3	sid=1,ls=3,lc=0
		sid=2,ls=2,lc=0

Object is not committed due to NOT ls >= lS.
Session is marked committed.
Whole objects are returned where lS > last_sync.
Possible notice to user.

Csc would appear changed.

Server	-	**Client A**
SC=3,isC=1	(Csc=4)	last_sync=3
SC=4,isC=1		sid=1,ls=3,lc=0
Ssc=None		sid=2,ls=2,lc=0
id=1,lS=4		
id=2,lS=2	>>>	**Client B**
	Csc=4	last_sync=4
	id=1,lS=4	sid=1,ls=4,lc=0
		sid=2,ls=2,lc=0

Object may be committed due to ls >= lS.
Session is marked committed.
Whole objects are returned where lS > last_sync.
NOT FIRST-IN-FIRST-SERVED.
BUT WOULD RESOLVE EVENTUALLY.

Csc would appear changed.

Start of System

Server	-	**Client A**	Comment
SC=None	(Csc=0)	last_sync=0	No sync count.
Ssc=None		obj=None	No objects.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear as zero.

Local Change

Server	-	**Client A**	
SC=None	(Csc=0)	last_sync=0	Client A creates an object locally.
Ssc=None		sid=0,ls=0,lc=1	
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear unchanged.

Local Change

Server	-	**Client A**	
SC=None	(Csc=0)	last_sync=0	Client B creates an object locally.
Ssc=None		sid=0,ls=0,lc=1	
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		sid=0,ls=0,lc=1	Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**	
SC=1,isC=0	last_sync=0	last_sync=0	Session started.
Ssc=1	sid=0,ls=0	sid=0,ls=0,lc=1	Ssc is issued outside of the data transaction.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		sid=0,ls=0,lc=1	Csc would appear unchanged.

Start Upload Phase

Server	-	**Client A**	
SC=1,isC=0	(Csc=0)	last_sync=0	Session started.
SC=2,isC=0		sid=0,ls=0,lc=1	Ssc is issued outside of the data transaction.
Ssc=2			
Obj=None			
	<<<	**Client B**	
	last_sync=0	last_sync=0	
	sid=0,ls=0	sid=0,ls=0,lc=1	Csc would appear unchanged.

Server	>>>	**Client A**	
SC=1,isC=1	Csc=1	last_sync=1	New object will be committed due to provided sid=0.
SC=2,isC=0	id=1,lS=1	sid=1,ls=1,lc=0	Session is marked committed.
Ssc=None			Whole objects are returned where lS > last_sync.
id=1,lS=1	-	**Client B**	
	(Csc=1)	last_sync=0	
		sid=0,ls=0,lc=1	Csc would appear changed.

Server	-	**Client A**	
SC=1,isC=1	(Csc=2)	last_sync=1	New object will be committed due to provided sid=0.
SC=2,isC=1		sid=1,ls=1,lc=0	Session is marked committed.
Ssc=None			Whole objects are returned where lS > last_sync.
id=1,lS=1	>>>	**Client B**	
id=2,lS=2	Csc=2	last_sync=2	
	id=1,lS=1	sid=1,ls=1,lc=0	
	id=2,ls=2	sid=2,ls=2,lc=0	Csc would appear changed.

Local Change

Server	-	**Client A**	
SC=1,isC=1	(Csc=2)	last_sync=1	Client A changes an object locally.
SC=2,isC=1		sid=1,ls=1,lc=1	
Ssc=None			
id=1,lS=1	-	**Client B**	
id=2,lS=2	(Csc=2)	last_sync=2	
		sid=1,ls=1,lc=0	
		sid=2,ls=2,lc=0	Csc would appear unchanged.

Local Change

Server	-	**Client A**	
SC=1,isC=1	(Csc=2)	last_sync=1	Client B changes the same object locally.
SC=2,isC=1		sid=1,ls=1,lc=1	
Ssc=None			
id=1,lS=1	-	**Client B**	
id=2,lS=2	(Csc=2)	last_sync=2	
		sid=1,ls=1,lc=1	
		sid=2,ls=2,lc=0	Csc would appear unchanged.

Start Upload Phase

Server	<<<	**Client A**	
SC=3,isC=0	last_sync=1	last_sync=1	Session started.
Ssc=3	sid=1,ls=1	sid=1,ls=1,lc=1	Ssc is issued outside of the data transaction.
id=1,lS=1			Trailing committed SC rows are deleted.
id=2,lS=2			
	-	**Client B**	
	(Csc=2)	last_sync=2	
		sid=1,ls=1,lc=1	
		sid=2,ls=2,lc=0	Csc would appear unchanged.

Start Upload Phase

Server	-	**Client A**	
SC=3,isC=0	(Csc=2)	last_sync=1	Session started.
SC=4,isC=0		sid=1,ls=1,lc=1	Ssc is issued outside of the data transaction.
Ssc=4			
id=1,lS=1			
id=2,lS=2	<<<	**Client B**	
	last_sync=2	last_sync=2	
	sid=1,ls=1	sid=1,ls=1,lc=1	
		sid=2,ls=2,lc=0	Csc would appear unchanged.

			Long running transaction and inserts running in background.

Server	-	**Client A**	
SC=3,isC=0	(Csc=2)	last_sync=1	Object will be committed due to ls >= lS.
SC=4,isC=1		sid=1,ls=1,lc=1	Session is marked committed.
Ssc=None			Whole objects are returned where lS > last_sync.
id=1,lS=4			
id=2,lS=2	>>>	**Client B**	
	Csc=2	last_sync=2	
	id=1,lS=4	sid=1,ls=4,lc=0	
		sid=2,ls=2,lc=0	Csc would appear unchanged.

Server	>>>	**Client A**	
SC=3,isC=1	Csc=4	last_sync=4	Object is not committed due to NOT ls >= lS.
SC=4,isC=1	id=1,lS=4	sid=1,ls=4,lc=0	Session is marked committed.
Ssc=None	id=2,ls=2	sid=2,ls=2,lc=0	Whole objects are returned where lS > last_sync.
id=1,lS=4			Possible notice to user.
id=2,lS=2	-	**Client B**	Possible future local changes over write on Client B.
	(Csc=4)	last_sync=2	
		sid=1,ls=4,lc=0	
		sid=2,ls=2,lc=0	Csc would appear changed.

Start of System

Server	-	**Client A**	Comment
SC=None	(Csc=0)	last_sync=0	No sync count.
Ssc=None		obj=None	No objects.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear as zero.

Server	-	**Client A**	Object committed to server.
SC=1,isC=1	(Csc=1)	last_sync=0	(Raw data load example)
Ssc=None		obj=None	(Do not perform online)
id=1,lS=1			(Recovery or preload example)
	-	**Client B**	
	(Csc=1)	last_sync=0	
		obj=None	Csc would appear as 1.

Start Download Phase

Server	<<<	**Client A**	Client A download phase.
SC=1,isC=1	last_sync=0	last_sync=0	Client sends last_sync.
Ssc=None		obj=None	
id=1,lS=1			
	-	**Client B**	
	(Csc=1)	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	>>>	**Client A**	Server returns objects where
SC=1,isC=1	Csc=1	last_sync=1	lS > last_sync.
Ssc=None	id=1,lS=1	sid=1,ls=1,lc=0	
id=1,lS=1			
	-	**Client B**	
	(Csc=1)	last_sync=0	
		obj=None	Csc would appear unchanged.

Start Download Phase

Server	-	**Client A**	Client B download phase.
SC=1,isC=1	(Csc=1)	last_sync=1	Client sends last_sync.
Ssc=None		sid=1,ls=1,lc=0	
id=1,lS=1			
	<<<	**Client B**	
	last_sync=0	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	-	**Client A**	Server returns objects where
SC=1,isC=1	(Csc=1)	last_sync=1	lS > last_sync.
Ssc=None		sid=1,ls=1,lc=0	
id=1,lS=1			
	>>>	**Client B**	
	Csc=1	last_sync=1	
	id=1,lS=1	sid=1,ls=1,lc=0	Csc would appear unchanged.

Start of System

Server	-	**Client A**	Comment
SC=None	(Csc=0)	last_sync=0	No sync count.
Ssc=None		obj=None	No objects.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear as zero.

Start Download Phase

Server	<<<	**Client A**	
SC=None	last_sync=0	last_sync=0	Client A download phase.
Ssc=None		obj=None	Client sends last_sync.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear unchanged.

Server	>>>	**Client A**	
SC=None	Csc=0	last_sync=0	Server returns objects where
Ssc=None	Obj=None	obj=None	lS > last_sync.
Obj=None			
	-	**Client B**	
	(Csc=0)	last_sync=0	
		obj=None	Csc would appear unchanged.

LEGEND

SC	Sync Count
isC	isCommitted
Csc	Committed Sync Count*
Ssc	Session Sync Count*
id	Object ID on Server
lS	Object Last Sync on Server
last_sync	client last sync
sid	Server Object ID
ls	Object Last Sync
lc	local changes

*generated by queries.