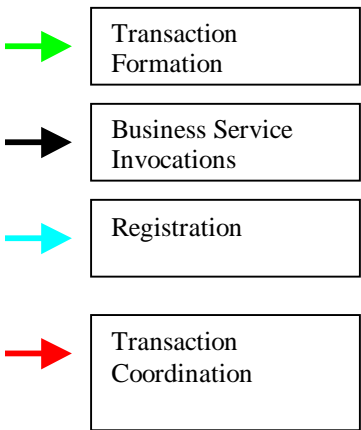
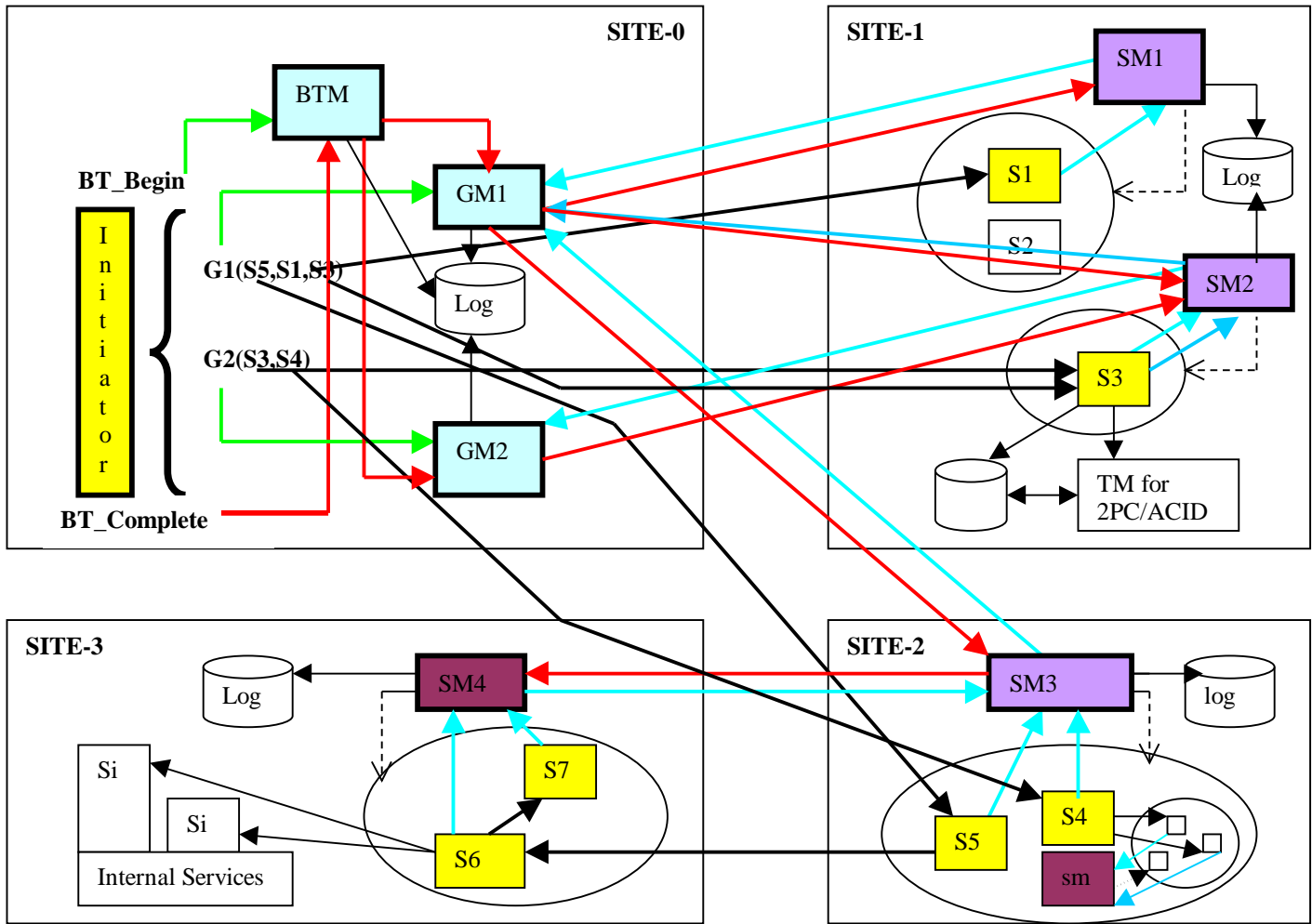


## BUSINESS TRANSACTION PROTOCOL and ACTORS (w/ Explicit Registration)



- 1- Initiator starts a transaction (Business Transaction Manager, BTM created)
  - 2- Initiator creates group of operations (Group Manager, GM created)
  - 3- Initiator starts executing group of operations (Multiple Web Service [S] requested). Initiator know the URL of the requested service (its own URL sent in the message)
  - 4- Service that is part of the BT informs its Service Manager (SM)
  - 5- Service Manager registers with transaction (with GM) as a branch manager.
- Note that 1) SM4 is a sub-transaction invisible to main transaction (should it register with main transaction instead? NO), 2) SM3 registers twice, once for GM1 and once for GM2 and SM2 registers .
- 6- Initiator signals the end of transaction (complete/undo to BTM)
  - 7- BTM asks for vote (GMs may already know the results or confirm with SM)
- \* Note also the internal group at SITE-2 and 2PC/ACID transaction at SITE-1, internal service call SITE-3 as well.

**Note** that SMs may have a role of local transaction manager and resource manager (resources being the services) thus from the BTM point of view everything is local. **There are 5 different types of actors: Initiator, BTM, GM, SM and S.** (Names are for example only!) and Service Managers are like RM (resource managers for a service group – for example they may check consistency of requests/and actions and may not allow if their internal consistency in danger – implementation details -).