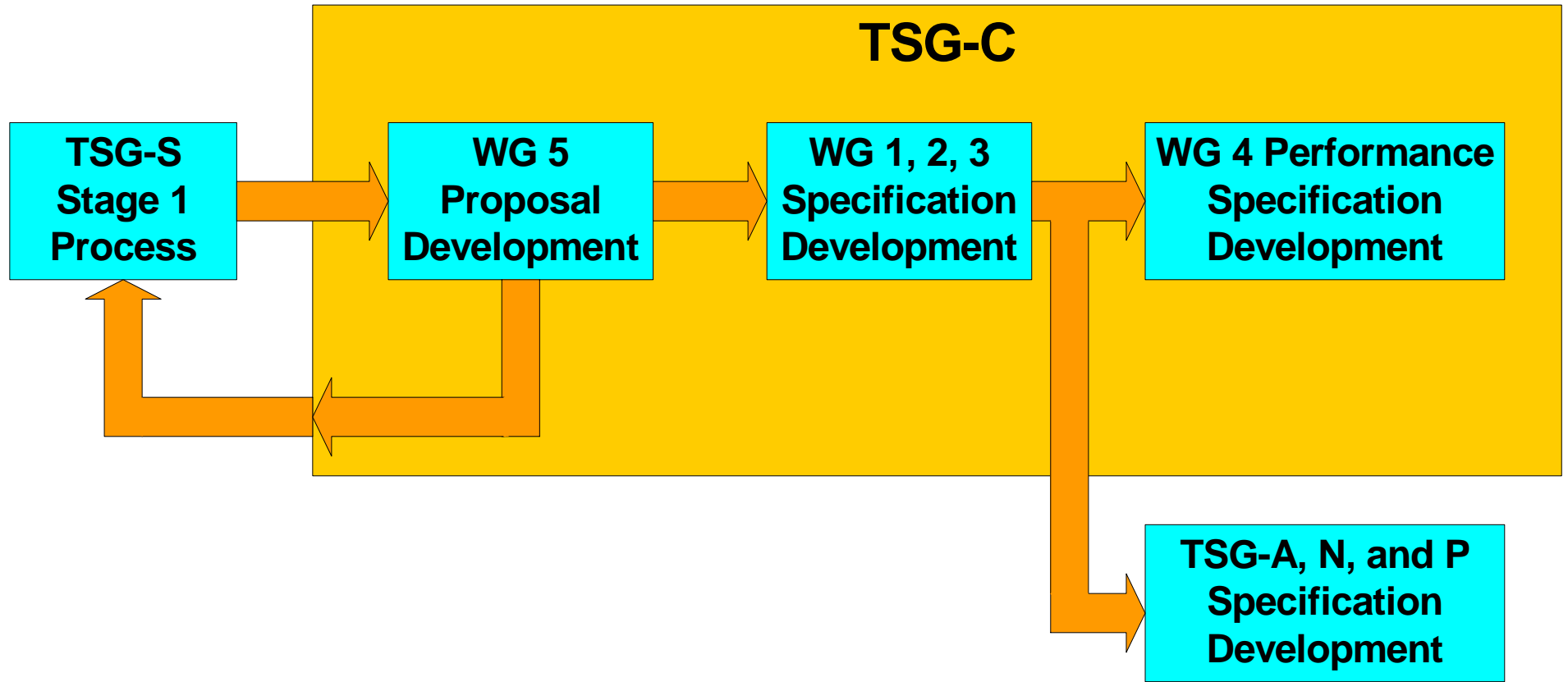


Development of cdma2000 1xEV-DV/1xEV-DO in 3GPP2

Current Overall Status

- **1xEV-DO**
 - **Standards published**
 - » Air interface specification, C.S0024
 - » Performance specifications, C.S0032 and C.S0033
 - » A interface (IOS) modifications, A.S0007
 - » Several other areas of modifications (e.g., OTA)
 - **Currently in maintenance mode**
- **1xEV-DV**
 - **Currently in progress**
 - **Working to updated ITU-R date of May 31, 2002 for transposition to be completed by at least one SDO**
 - **Will be part of Revision C of cdma2000**

Basic 3GPP2 Process



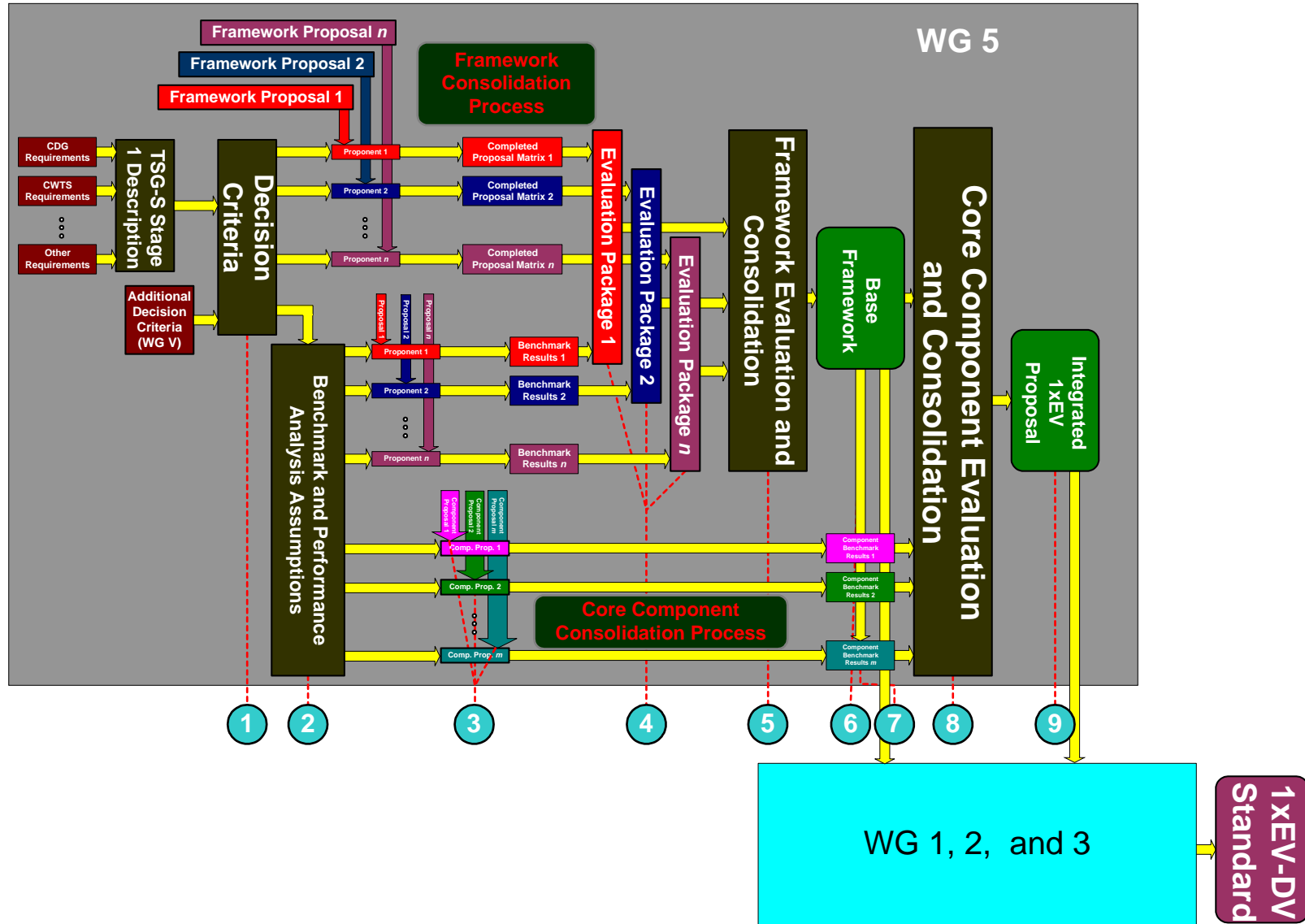
TSG-S Stage 1 Process

- **Developed a set of requirements for 1xEV-DV, S.R0026**
- **Requirements were a set of requirements; no verification done could be met**
- **Main requirements**
 - **Relative to cdma2000, at least two times the number of concurrent voice calls for a single radio channel**
 - **Peak data rates (data only): at least 2.4 Mbps on the forward bearer channel**
 - **Peak data rates (data only): at least 2 Mbps (1.25 Mbps in a vehicular environment) on the reverse bearer channel**
 - **Average throughput per sector (data only) 600 kbps on both forward and reverse bear channel**
 - **Multiple traffic types, support for QoS**
- **Main constraints**
 - **Rates and throughputs to be measured with standard BS antenna configurations and with existing speech codecs in normal modes**
 - **Channel used to support 1xEV-DV must be able to support IS-95 and cdma2000 mobiles**

TSG-C WG 5 Process

- **Provide technical assessment, evaluation, and consolidation of proposals**
- **Select an air interface framework, architecture, and component technologies**
- **Satisfy the requirements contained in the 1xEV-DV Stage 1 Description developed in TSG-S**

TSG-C WG 5 Detailed Process



Decision Criteria Matrix

- **Develop what is required in Framework Evaluation Package**
- **Takes TSG-S requirements and turn them into greater technical detail**
 - Data rates
 - Capacity and throughput
 - Coverage (link budgets)
 - ...
- **Adds additional information that is needed to understand and analyze the proposal**
 - Peak-to-average ratios
 - Required E_b/N_t , E_b/I_{or} , etc
 - ...
- **Want proposers to provide sufficient information so that**
 - Other companies can fully understand the proposal and perform analyses to verify others' results
 - Comparison matrices can be developed

Performance Evaluation Strawman

- To provide common methods (and necessary technical details) to analyze the performance of proposals
- Agreed upon analysis methods permit the results from different companies to be compared
- Link layer simulations including
 - Power control delays
 - Interference characterization
- System simulations including
 - Number of cells
 - Interference characterization
 - Mobility modeling
 - Computation of path losses
 - Modeling of feedback mechanisms
 - Modeling of required E_b/N_t s
 - Modeling of antenna characteristics
- Required outputs

TSG-C WG 5 FL Status

- **FL framework proposals submitted results in accordance with decision criteria and evaluation methodology strawman documents**
- **Worked to resolve inconsistencies in simulation differences**
- **Decided upon a path proceed forward, primarily consisting of one proposal, with**
 - **Incorporation of CDM/TDM**
 - **A number of open study items; targeted closure December 2001**
- **Currently in process of**
 - **Resolving all open study items**
 - **Incorporating component proposals**
- **Once closed, will hand off to Working Groups 2 and 3 for detailed text development**

TSG-C WG 5 RL Status



- **Currently in the process of analyzing proposals**
- **Once basic design is developed and refined, then will hand off to Working Group 2 and 3 for detailed text development**

Working Group 5 Deliverables

- **1xEV-DV system design**
- **Description of requirements that are believed to have been met or not met in framework**
- **Analysis of expected performance**
- **Open items or minor components (can be integrated in Working Group 2 and 3)**