

- Need to ID specific areas that are appropriate to GRC with critical mass and adequate interest
 - Should there be a matrix established that defines focus areas, i.e technology scaling areas, etc., at the ETAB level. No clear communication from industry to universities. Are we appropriately structured and governed in GRC
 - Concentrate on few areas to get critical mass to make a difference.
- Re-establish opportunities for research emphasis to transfer from one entity to another
 - Migration between entities part of corporate goals – will make information accessible to ETAB – funding issue and pros/cons of overlap – membership diversity

- System level design – how do you define specific areas – what are the clusters of interested within system design that we can address – tangible research topics. Need for more focus in system level design – fund activity in a more organized manner – need a process to define how we move forward. Crisp definition of system level design and structure ownership between ICSS/CADTS.
 - Need tools that span all levels of abstraction – have to go vertical.
 - Define input/output – very clear roadmap – integrating strategy based on some future system level requirement vertically and horizontally.

- Define thrust level structure and topics adequately – focus on what we do in GRC.
- Do we need a 6th GRC science area – currently science areas map to current focus centers.
- ITRS – what does the ITRS say about system level research. (multicore, software, small scale systems (energy harvesting, sensor network applications) –
 - Looking forward need to pay more attention. What areas to attack – embedded space? What do we specifically focus on?
 - Driven to embrace more than moore activities. Understand impact of more than moore.
- Right people in thrust to carry us forward?

- **Handful of cross science area research “buckets”?**
May want to rethink how we restructure properly to meet Member needs. Now is a good time for specific recommendations. What areas need greater emphasize – then SRC mgmt to propose structural changes. ETAB to come up with specifics in system design bucket. What do we want GRC to optimize/maximize – specific areas of relevant topics.
- How do we have more consensus rather than divergence? What do we have to sacrifice to create a consortial program.

- How reliable were predictions/requirements (going back in time) – what do we plan to do moving forward?
- Topics which attract new members and contributions outside GRC (i.e. TxACE and Multicore Solicitation).
- ESH Center – changing or growing interest? Interest in developing additional sources of funding.
- TRC – sub-consortia (GRC/non-GRC members), i.e. renewable energy sources. Opportunities to form additional TRCs.



- Cost aspect should be comprehended, i.e. 3D
 - Comprehended in proposal review/ITRS



- High level system design (integrated strategy that span levels of abstraction horizontally and vertically) (AMD)
- How do we want to migrate research (IBM)
 - Regrouping SA or thrusts within for funding buckets
- 1-Multicore 3D, 2-embedded systems with analog mixed signal, 3-back end of line scaling, memory, devices. Roughly equal distribution (IBM)
 - Identify topics of interest
- Actionable roadmap on carbon thin film electronics within GRC (AMAT)

- System tools that provide an integrated strategy – smaller research bucket toward partitioning workloads – multicore/multicontroller environment. (FSL).
- 1-Low Power High Performance Technology research, 2- 3D IC, 3- embedded memory (GF)
- Regrouping and re-prioritizing (IBM)
- Continued scaling, non-classical CMOS Center, interest in increasing design complexity challenges – would be interested in giving up directed self-assembly and some areas of carbon based technology. (Intel)

- Consensus regarding systems level as an area (how this is funded will affect CADTS) – focus in CADTS (tool work) - (Mentor)
- Basic materials, basic integration – continue focus on research in these areas. Technology downselection, i.e. carbon nanotubes and other technologies that have run their course. Re-invest in new technologies, i.e. III-V. Apply pot to right sets of technologies. (Novellus).

- **Happy** with critical mass in analog mixed signal – new areas would be alternate application areas – bio electronics, energy electronics. Nonclassical CMOS to reallocate funds and carbon nanotubes and graphene (what is already being done in FCRP and NRI. (TI)
- Agrees with Novellus/AMAT. New materials research to enable future multi-system – more effective roadmap from NRI to GRC (TEL)