

The networked economy and CMM-I

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Agenda

- Our challenge
- Definition and scope
- Semiconductors
- Traffic management
- Set-Top Box
- Synthesis
- CMMI
- Process alignment
- Improvement and its organisation
- Conclusion

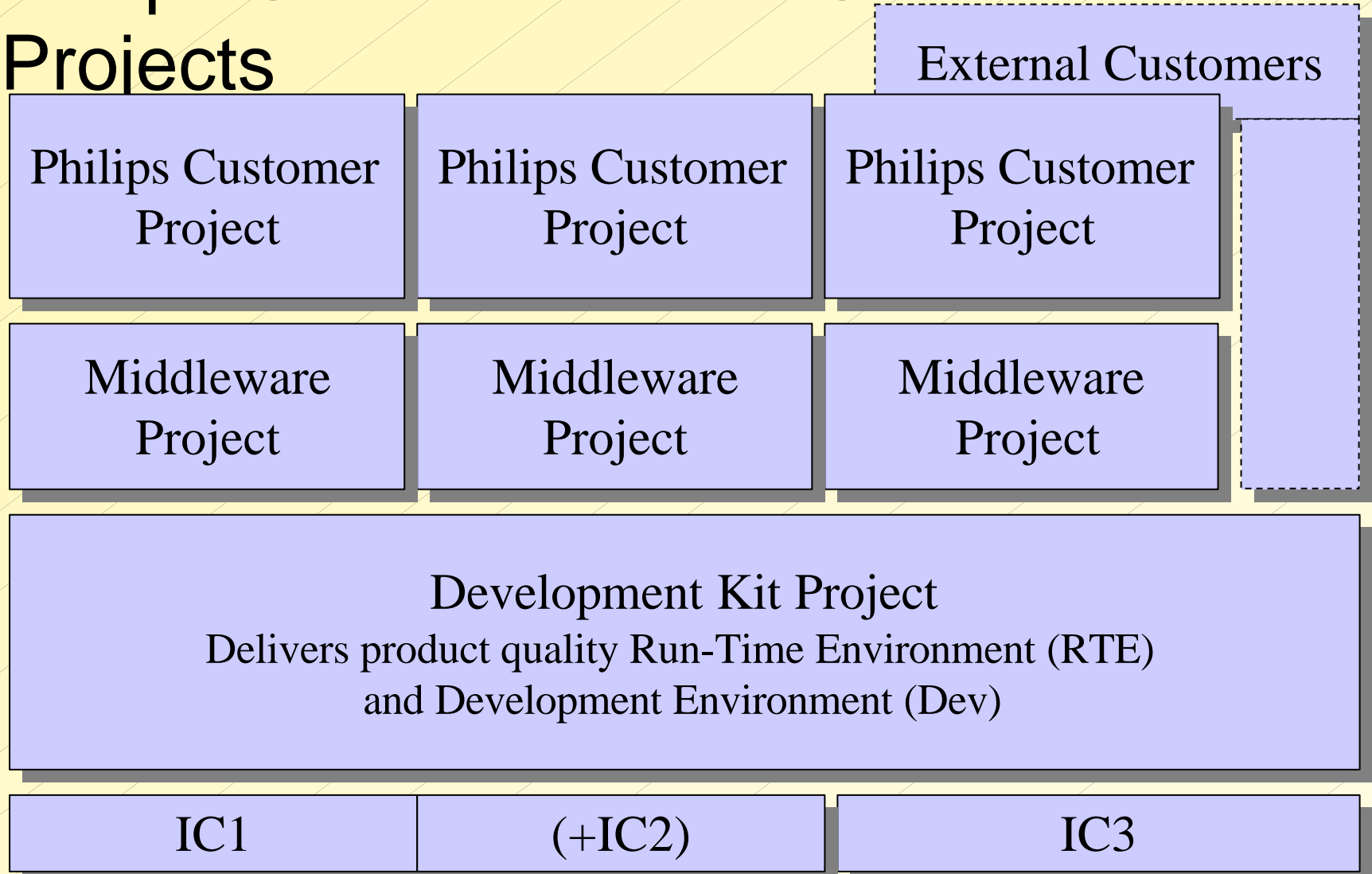
Our challenge

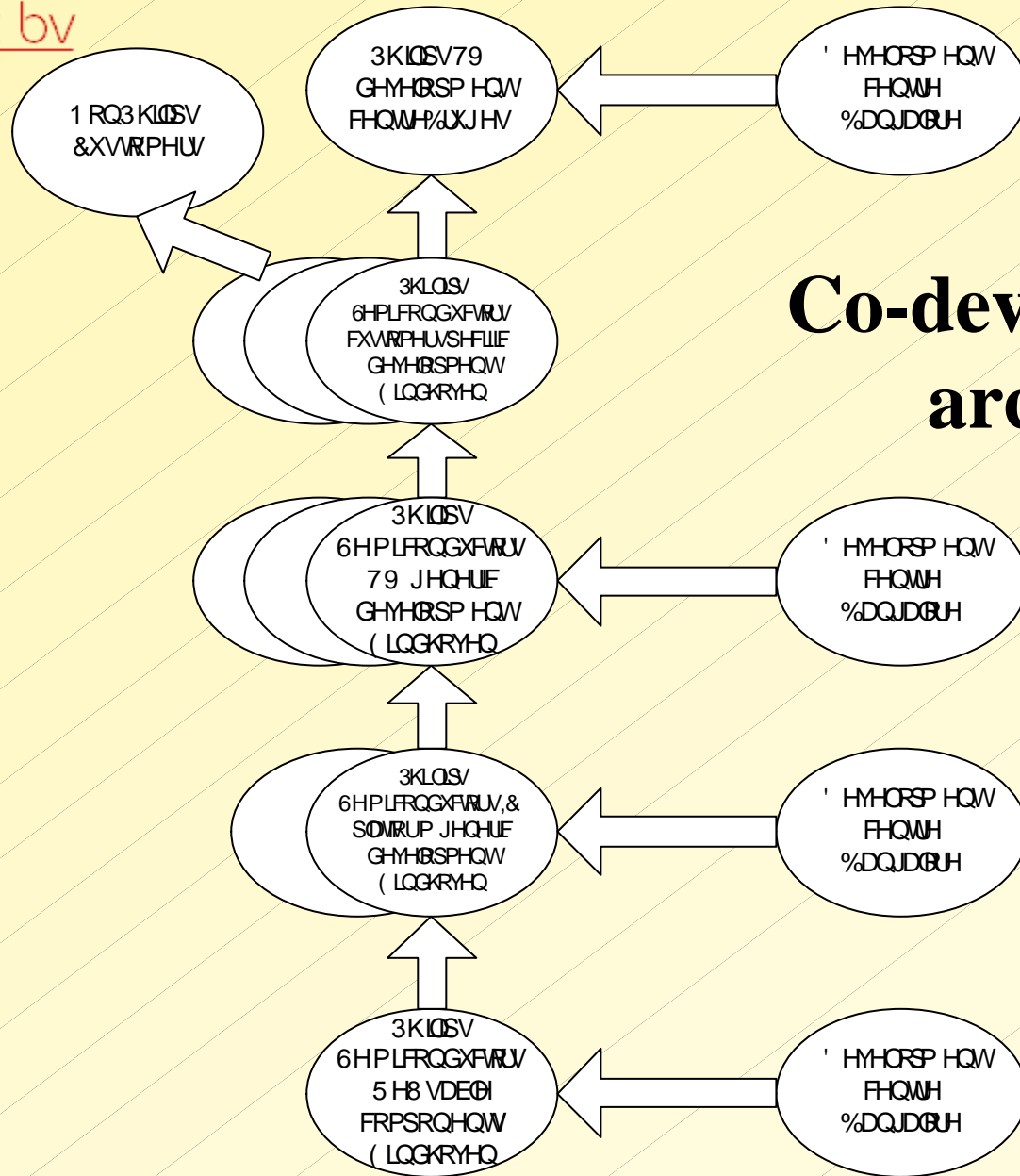
- The networked economy and CMMI have no relationship at all
- Or do they?
- Current trend: growing product complexity
 - Product line & platform approach
 - Networks

Definition and Scope

- **Definition**
 - The networked economy is the set of (parts of) organisations ('nodes') that co-operate through properly defined interfaces
 - The interface can be defined by
 - The product or service obtained or delivered
 - The protocols of demand and acceptance
 - The reward and protocol of reward
- **Scope**
 - Product and service development

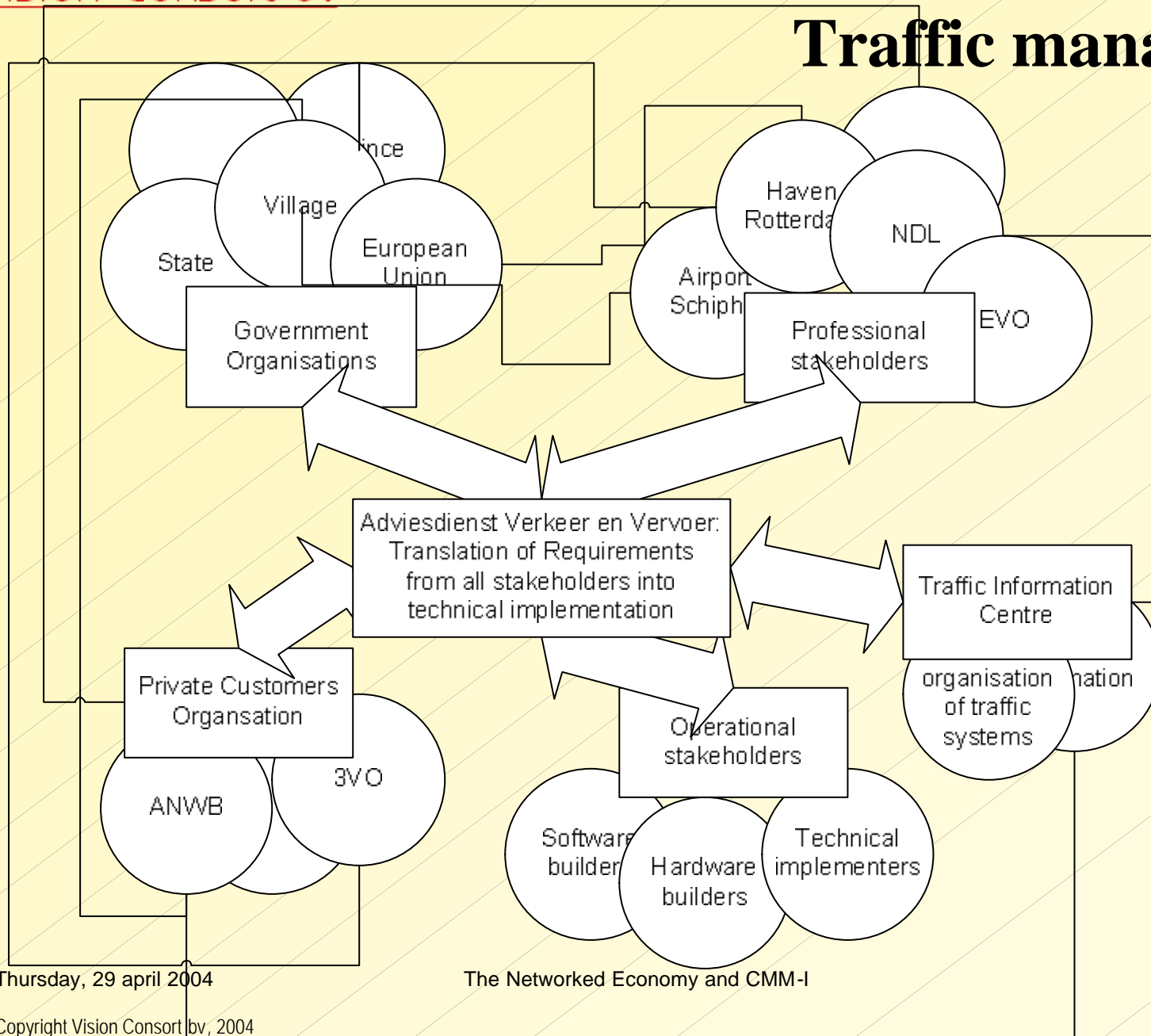
Philips Semiconductors Software Projects



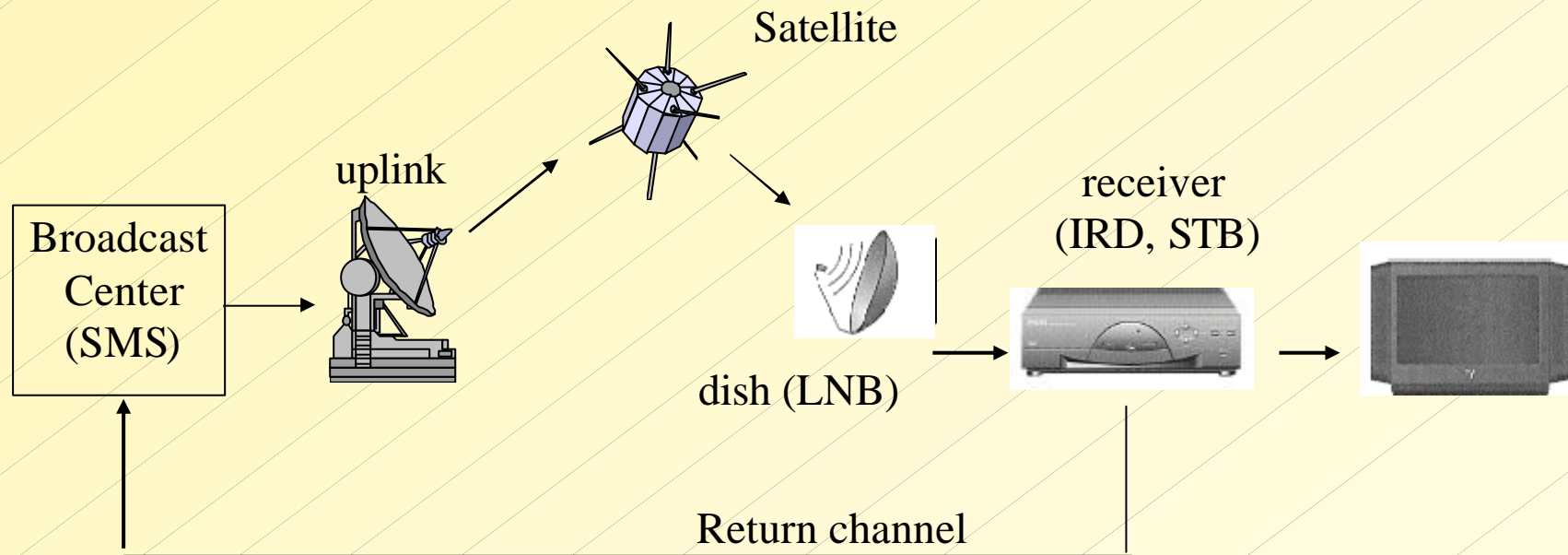


Co-development architecture

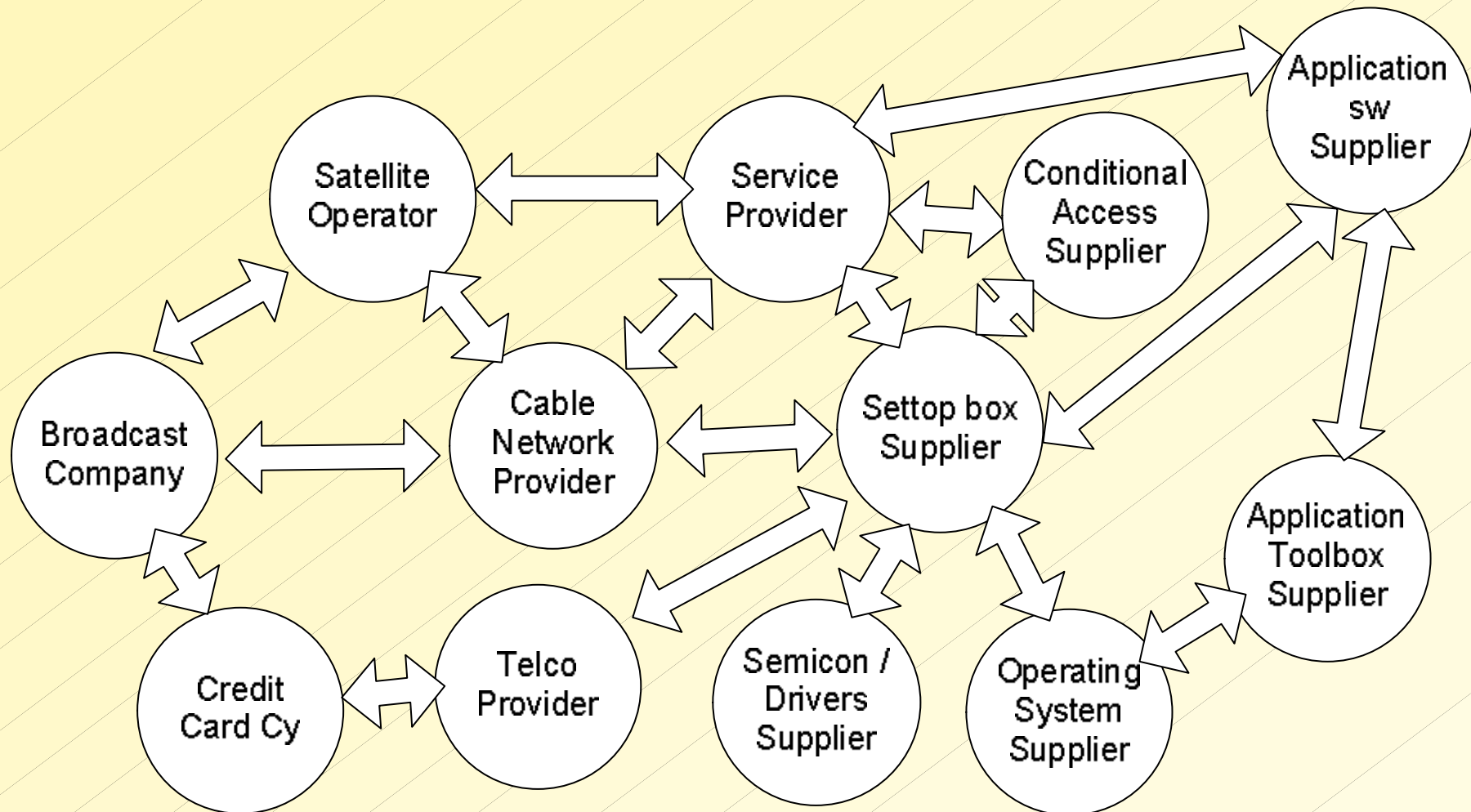
Traffic management



Set-Top Box



Set-top box development organisations

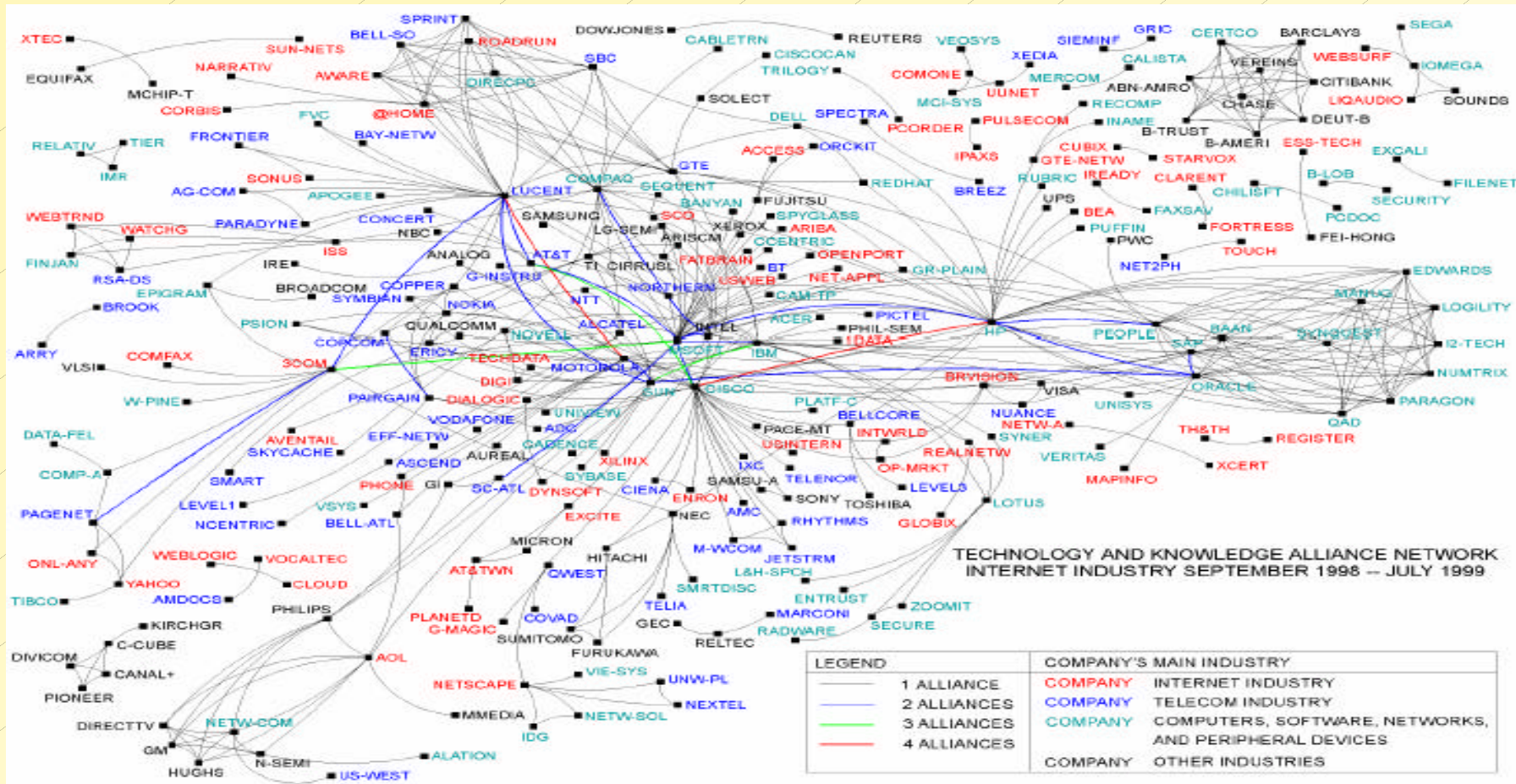


Observations

- Technical infrastructure/architecture ~ interfaces
- Organisational infrastructure/architecture ~ interfaces
- Organisation of the network
 - Non-hierarchical
 - Project triggered
 - Program related
 - Competence centred
 - Independent nodes

Alliances in the microelectronics industry

source: MERIT-CATI



Synthesis

- Networked economy characteristics
 - Customer centred, full solution
 - Multi national, multi vendor networks
 - Non hierarchical
 - Portfolio's of relationships (alliances)
 - Relatively open, shared intellectual property
- Applicability and usability of CMMI?

Integrated Project Management

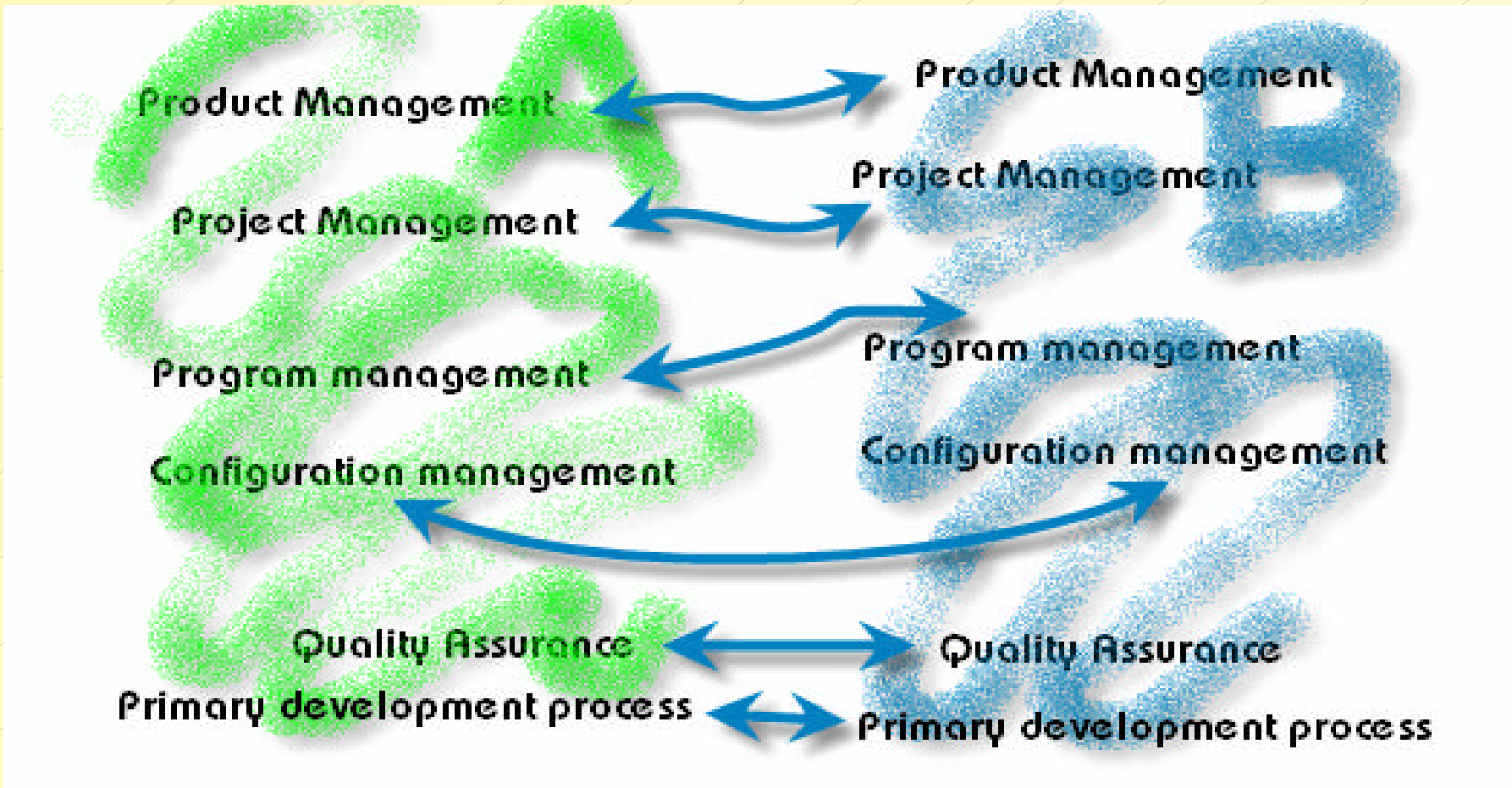
- ...establish and manage the project....
- ...and the involvement of the relevant stakeholders...
- ...an integrated and defined process...
- ...tailored from the....
- ...organisation's set of standard processes.

CMMI applicability for nodes & networked organisations

- Requirements Management
- Supplier Agreement Management
- Configuration Management
- Process & Product Quality Assurance
- Integrated Project Management
- Product Integration
- Verification
- Validation

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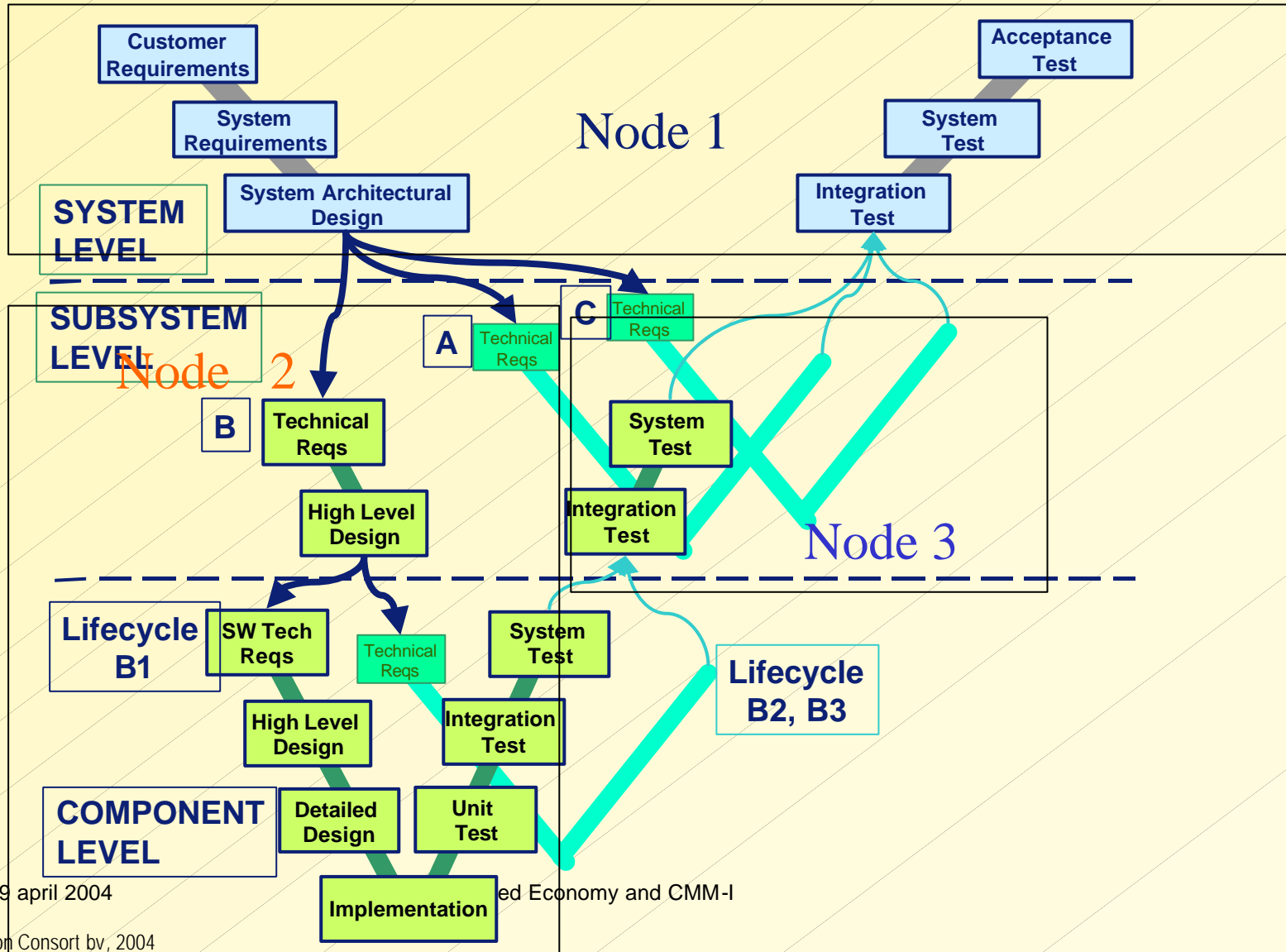
Process alignment



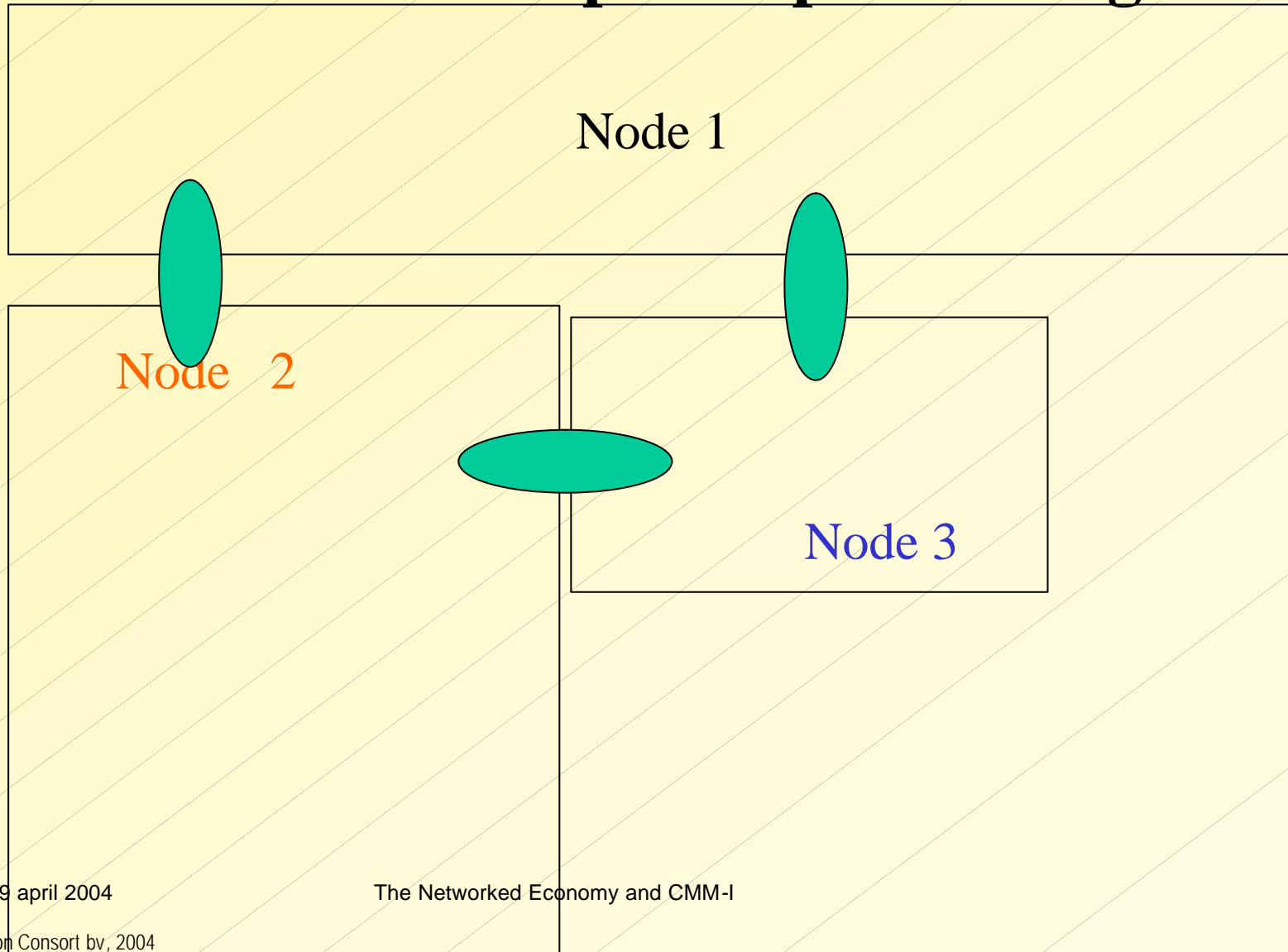
Network agreement management

- Statements of work
- Responsibilities
- Changes in requirements and agreements
- Standards and procedures
- Critical dependencies
- Monitoring partner performance
- Reviews and reporting
- Maintenance and support
- Acceptance criteria

Levels of abstraction



Development process alignment



CMMI characteristics

- Project oriented processes
- Implicitly hierarchical
- Dyadic relationships

CMMI: Improving Processes for better products

- **Helping the networked economy to assess its maturity and improve its processes:**
 - Locally (node), project oriented, with CMMI
 - Locally (node), program or product line oriented, with enhanced CMMI
 - Globally (alliance), with enhanced CMMI

Conclusion on CMMI

- The scope of CMMI should be enlarged to include alliances of organisations
 - mutual requirements management and –engineering
 - technical standards management
 - co-operation standards
- CMMI should be enhanced with process areas like
 - product programming
 - program management
 - alliance management (including competence management)
- Some process area's scope should be enlarged to include platform architecture, product lines and program management

The organisation of process improvement

- Someone is the node owner, she is the prime candidate to invest in improvement; investments in CMMI are dependent of expected or desired lifetime of the node
- Someone is the problem owner, she is the prime candidate to invest in improvement; investments in CMMI are dependent of expected or desired lifetime of the network
- The CMMI competence might be a node in the alliance

Where to find us

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