

Technology Trends – an Industry View

Address to CONSEG 09
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Agenda

- Current Market Imperatives
- Industry perspective on Trends
 - Hardware
 - Software
 - Software Engineering

*The trends are based on an analysis of inputs from the TCS Co-Innovation Network (Venture capital firms, Academia, Strategic partners, Customers, TCS Innovation Labs, IT Analyst Firms)
The trends are Global – for the purposes of the this address, trends of relevance to India are marked in [BLUE](#)*

Current Market Imperatives

Here and Now

- Attention Grabbers
 - [Productivity, Efficiency, Cost](#)
 - Simplification
 - Agility, Speed
- Ongoing priorities
 - Security, Privacy
 - Regulatory response, Risk Management
 - [Enterprise Knowledge and Collaboration](#)

Longer-term

- Attention Grabbers
 - Understanding Customers and Markets
 - Customer Experience
 - [Ubiquity](#)
- Strategic Bets
 - Environment
 - [Healthcare](#)
 - [Education](#)
 - [Urbanization](#)
 - [Transportation](#)

Hardware

- CMOS is likely to make incremental improvements for the foreseeable future, with multi-core as a clear trend – leading to blurring of CPU/GPU boundaries
- [Cloud computing and large scale virtualization / utility computing becoming more attractive to enterprises – driven by economics. Lots of issues to be solved, but the pace is quicker than expected](#)
- Integrated processing and storage with solid-state disks, 'storage clouds' in the consumer world have possibilities for the enterprise as well
- Energy efficiency in processors and memory, scaling up to energy-efficient data centers, 'Green' computing
- General purpose computing architectures for 'specialized' applications e.g. Intel Atom
- [Simplicity at the desktop – virtualization, streaming are examples to drive down manageability and serviceability](#)
- [Convergence of hand-held, portable and desktop application stacks, with multiple user interface technologies – touch, voice, gesture...](#)

Software

- Need for simplicity and alignment with Business needs – Enterprise Architecture, BPM..
- Cost and complexity of software is a concern
- [Enterprise software platforms as part of an integrated landscape at the top-end, software as a Service inside and outside the enterprise at the other end](#)
- Security, Privacy, Risk, Compliance
- [Potential 'mass' usage e.g. Mobile Phones are changing the conventional views on the 'user' - the 'consumer-web' is teaching the enterprise a few lessons!](#)
- Driving collaboration to the next level - Social networking for the enterprise, with Unified communication providing the glue
- [Rich UI for the Web with collaborative applications](#)
- Legacy modernization is a moving target – C applications are now 'old'!

Software Engineering

- Integrated models and views from Business Process to delivered software
- [Software engineering as a business process, with integration into business workflows, with software engineering standards, processes and metrics correlating with business outcomes](#)
- Application Life cycle management, integrated with Infrastructure management
- [Agile + Globally distributed teams](#)
- Composition, Configuration of applications
- Assertion of the properties of software, testing and assurance
- [Formal methods for embedded software](#)
- Integration and co-operation of diverse application stacks
- [Do-it-as-you-go platforms from development to deployment – typically on SaaS models](#)

Summary

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