IBM Business Consulting Services

Ready or Not, Here it Comes
High-Tech 2005

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Futures Series
Executive Summary

This paper is part of IBM Business Consulting Services on-going commitment to forward-looking industry and business points of view, and our aim to help companies and industries Transform Futures.

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Ready or Not, Here it Comes—High-Tech 2005

The Horizontal, Hyper-Competitive Future

With some justification, CEOs of high-tech companies have blamed their recent losses and missed earnings on the economic slowdown. The companies have struggled to optimise their existing business models, many with across-the-board budget cuts and layoffs.

But now there's more at work than just the economic downturn. The very basis of competition is changing. The time has come for a fundamental rethinking of business models.

High-tech companies that align their business models with the horizontal, hyper-competitive future will succeed; those that don't will falter.

The Seven Features of the Horizontal, Hyper-competitive Future

The future will be horizontal. This means that the proprietary and vertically integrated business models of the past will be unbundled into their component layers – layers that can be assembled more cost-efficiently by others. The integrated solution stack will break apart into separate but compatible layers of software, operating systems and hardware – and within hardware, into standardised semiconductors and components.

The future will also be hyper-competitive. Enterprise value propositions play on three dimensions of customer value: price/value, customisation/integration and innovation/performance; Web-based technologies enable quantum jumps in all three kinds of value at once. Those who learn to exploit this capability will be able to create winning value propositions that don't just offer trade-offs – for example, greater performance at a higher price. Instead, they will be able to offer higher performance, lower price and greater customisation, all at the same time.

By 2005, seven profound and disruptive features will define the high-tech landscape:

1 Price-performance wins

In a horizontal industry, every layer will be exposed to an unrelenting price-performance dynamic. With that will come downward pressure on price, coupled with an ever-increasing demand for greater performance. Memory and microprocessor vendors already live in this reality.

2 Customers confront complexity

Intense price-performance competition will benefit customers – they will get ever-greater functionality at ever-lower cost. But customers will also face increased complexity – of hardware options, integration choices and multi-company business coordination. Today, and even more so in 2005, unbundling of business models will create competitors at every layer, leaving the enterprise buyer to make sense of it all.

3 Value migrates

Product design and assembly will no longer command high margins. Instead, value will flow upstream, to innovative component makers, and downstream, to solution integrators. As the return on R&D diminishes for OEMs, component suppliers will pick up the slack, delivering products that enable OEMs to offer greater price-performance. At the same time, solution integrators will capture value by simplifying the complexity of the layers, and the purchasing decision, for their customers. A new distribution of value will emerge.

4 Branding and customer support differ-entiate commodity products

Price-performance competition makes purely performance-based differentiation difficult and unstable. As a result, branding, service and customer relationships will become vital to sustaining success.

5 Collaborative networks grow

The unbundling of the solution stack will require more partners and increase the complexity of coordination. Imagine a supply chain populated by downstream players like OEMs, resellers, software vendors, service providers and systems integrators – as well as upstream players like contract manufacturers, logistics providers, foundries, assembly and test experts, chip suppliers, component specialists and fabless design houses. Collaboration is the glue that will "re-aggregate" this network – bringing partners together, deepening relationships, providing economic motivation, integrating technologies and maintaining visibility across the network.

6 Global supply and global customers mean global organisations

The high-tech supply chain is already global, and horizontal roles will make it even more so. Unbundled roles will allow more activities to be performed wherever the economics are most favourable.

While globalisation of the external value chain is well developed, globalisation of the internal value chain has barely begun. Global customers will soon change that. Large enterprise customers are already sensitive to global pricing variations. They will increasingly expect globally consistent levels of service and responsiveness on supply, technical, maintenance and professional services. To respond, vendors will need global organisations with high levels of internal connectivity.

7 Competitors encroach horizontally

Competition has usually taken place among players that compete in a single product vertical: Sun Microsystems, Hewlett-Packard and Compaq in servers; Nortel Networks, Lucent Technologies and Cisco Systems in networking and communications equipment. In the horizontal future, incumbents will be challenged by competitors advancing horizontally from other verticals.

Issues and Actions for Four High-Tech Sectors

What follows is an assessment of the key issues – and winning responses – for four types of high-tech supply chain players: OEMs, contract manufacturers, semiconductor and component providers, and systems integrators.

OEMs

OEMs face a number of issues. They will see continued margin erosion as hardware commoditisation shifts value and influence to component providers. Unbundling layers will create complexity in the supply chain. At the same time, customers will demand comprehensive solutions. Finally, as enterprises look for a single point of contact for solutions, OEMs will face intensifying competition for customer ownership from integrated solution providers and alliances. Many will attempt to move into solution integration and other value-adding services. Not all will succeed.

Winning OEMs will need to take a number of actions. First, they must develop an increased ability to offer **integrated solutions** – internally or through partnerships. To do this they must expand their service operations from training and maintenance into professional services. They must also create stronger integration among traditionally decentralised product groups.

Those that choose to implement a solutions strategy via alliances must develop mechanisms to **manage transfer-pricing** structures across partners. Even integrated companies must do so internally across business units.

Some will choose to **focus on breakthrough innovation** – sensing, sizing and quickly entering into fast-growing, performance-sensitive segments. They must use licensing to maximise intellectual property leverage, and they must be selective, investing in research and development activities with high potential return.

Others will consider **price-based competition**. They should do so only where they can identify cost advantages beyond the pure assembly process.

Finally, successful OEMs, regardless of strategy, will **develop e-hubs** to assemble their collaborative networks and improve performance. These e-hubs will focus either on supply chain or innovation collaboration, based on the OEM's value proposition.

Contract Manufacturers

For several years contract manufacturers have pursued procurement consolidation as a path to improving margins. As this strategy offers diminishing returns, they will need to find other opportunities to improve their still-low margins. In addition, the variability of customer demand will require greater flexibility in operational response.

Contract manufacturers will need to link disparate assets assembled through acquisitions to increase capacity utilisation and reduce inventory. Above all, they will need to manage productive relationships with upstream and downstream supply chain partners – even as they seek to expand their role into activities previously claimed by these partners. This has the potential to create conflicts, especially with component providers.

Successful contract manufacturers will take a number of actions. First, they will **create global networks** in which demand and inventory can be shifted between sites. To accomplish this they will need to create visibility by integrating disparate operations and systems.

They will **specialise**. Some will develop specific functional competencies. Others will focus by customer segment. To succeed, they must avoid aligning with customers that have divergent value propositions.

They will **expand their service offerings** to improve customer retention. To supplement low-margin services such as materials movement and assembly, they will introduce new value-added services including design, inventory management and after-sales service.

They will **develop e-hubs** to improve performance via supply chain or innovation collaboration. To do this, they must agree on rules with OEMs and component suppliers to increase data clarity and visibility around supply chain processes.

Semiconductor and Component Suppliers

Semiconductor and component suppliers will face four key issues:

1. A disaggregated supply chain will obscure visibility and create inventory exposure.
2. Contract manufacturers will encroach on current relationships with OEMs.
3. Commoditisation and price pressure will increase the impetus for scale, efficiency and continued innovation.
4. As markets and technologies converge, the need for collaboration and alliances will increase.

We expect winners will take a number of actions. First, as competition from contract manufacturers for OEM mindshare increases, they will seek to maintain their salience by **stepping up R&D** in areas critical for OEMs.

Some suppliers will **consolidate to build scale and efficiency**. They may seek to acquire weaker players to rationalise capacity. They will need merger integration skills and relentless focus on manufacturing process improvements.

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Systems Integrators

Systems integrators have an opportunity to emerge as the solution integrator for enterprises by reassembling the unbundled layers. Capitalising on the growing demand for comprehensive solutions, though, will pose several issues:

- It will require significant capital and new capabilities, such as outsourcing and financing services.
- Competition will come from more sources: application service providers, OEMs and even some software vendors.
- Customers will increasingly demand total solution pricing.
- Balancing credibility as an independent adviser – while also creating the tight vendor alliances they need to deliver well-integrated solutions – will be a challenge.

Winning systems integrators will recognise that they need **an expanded solution footprint** to compete successfully. They will need to develop close partnerships or consider new financial structures to raise the capital for organic expansion. As they develop these solutions, systems integrators must also develop mechanisms to **manage transfer pricing** across divisions and enterprises.

Winning systems integrators will **develop value propositions consistent with their solution assembly approach**. Those that choose to go the alliance route should seek to maintain client objectivity by developing multiple alliance partners in each niche. Those that go down the conglomerate path, with a complete offering of proprietary hardware, software and services, will find it difficult to claim objectivity and, instead, should emphasise ease of integration across multiple product and service lines.

Preparing for the Horizontal, Hyper-competitive Future

Successful transformation to the horizontal, hyper-competitive future will require companies to fundamentally rethink their roles and their networks, and act to realign their capabilities. Business leaders will need to:

- Pick their horizontal space
- Redefine and Web-enable their value propositions
- Assemble their collaborative networks using e-hubs
- Integrate their internal operations globally
- Realign their organisations and technology

The challenge for CEOs today is to develop the right model for the future. Consequently, while companies must find ways to respond to the recession today – optimising, rightsizing and realigning where necessary – they must also go well beyond this. They must fundamentally question their current models and capabilities, to position themselves for growth after the recession.

The future – and it's not such a far future – will be horizontal and hyper-competitive. By 2005 technology layers will be unbundled, and competition within each layer will be intense. The very face of competition will be different, with new Web-enabled value propositions expanding competition and radically raising the stakes.

Profound and lasting changes are afoot in the high-tech industry – changes that transcend a mere economic downturn. Holding off investment at this time, and hoping your current business model will still be viable when the recession lifts, will lead to disappointment. Studies demonstrate that during downturns, advantage shifts to companies that continue to invest strategically. The forces of change are not waiting for the recession to pass. Neither can you.

In the horizontal future, incumbents will be challenged by competitors advancing horizontally from other verticals.

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G510--9162-00