# JAPAN

### Market Trends

The Japanese IT market is expected to grow 1.8% year on year in 2013. → GRAPH 2

In 2012, the IT market rebounded from the negative impact of the Great East Japan Earthquake and flooding in Thailand of 2011. However, the IT market is expected to expand slightly in 2013.

ICT investment has begun to recover, mainly in the manufacturing sector, owing to an improving export environment due to the yen's recent depreciation. Furthermore, consumer spending is showing signs of improvement, and the effects have rippled out to the distribution sector. In the public sector, public works spending aimed at post-quake reconstruction has expanded, while the healthcare sector is seeing increasing links between different regional healthcare networks.

Despite these developments, the server market in Japan is expected to contract more than 6% compared with the previous year. This reflects a decline after large mainframe shipments that were part of a major project in the financial services sector in the previous year. Anticipated contraction in the market, including lower prices, also reflects growing use of datacenters with a view to risk avoidance, and projected acceleration in the trend toward server integration and consolidation.

The PC market in Japan is also expected to decline by around 0.7% year on year. Lackluster conditions are

projected to continue due to the growth of smartphone and tablet sales.

The Japanese IT services market is projected to grow 1.9% year on year as IT budgets recover gradually along with improved corporate earnings. Since the Great East Japan Earthquake, demand has risen for use of datacenters with an eye toward business continuity planning (BCP). Similarly, reviews of IT system operation, as well as the introduction of new IT services through cloud computing, are expected to progress further. Moreover, new IT usage that leverages big data is attracting attention, with the IT services market poised to expand in the future, albeit at a moderate pace.

### Initiatives Going Forward

In the Japanese market, we will pursue a vertically integrated business model to propel new growth, and work to develop businesses that demonstrate the strengths that set Fujitsu apart from other companies. To this end, we will leverage our highly reliable platforms backed by hardware and software technologies, our integration and operations services based on a profound understanding of customers' businesses, and the ability to propose ways of harnessing new ICT to create added-value, such as through mobile devices and big data.

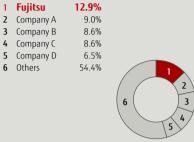
In the system products business, which comprises mainly servers, Fujitsu will strive to expand sales of <u>UNIX servers</u>

worldwide by stepping up collaboration with Oracle Corporation and focusing on the new SPARC M10\* model as a core product. In doing so, Fujitsu will work to capture a larger share of the UNIX market, with the aim of driving sales growth. In x86 servers, Fujitsu will continue to pursue greater development efficiency together with Fujitsu Technology Solutions (FTS) of Germany, in an effort to further enhance cost competitiveness. At the same time, we will work to expand x86 server sales by cultivating sales channels such as major systems integrators, enhancing promotions and using modernization as an opportunity to rise above competitors.

In the network products business, we will further expand our base station business as <u>LTE</u> rollout ramps up, and steadily advance business dealing with increased network traffic accompanying the rapid spread of smartphones. We will also aim to advance into new business fields, such as home-area networking utilizing LTE and optical access.

In the ICT services business, we will expand our modernization service, where we streamline existing application assets and transfer them to a framework that can be used over the long term. This service draws on our expansive customer base as a key strength. By helping customers to reduce maintenance and operations costs through this modernization service, we aim to speed their investment

### GRAPH 1 Share of 2012 IT Services Market Sales in Japan (Revenue Basis)



(Source: Gartner, "Market Share: IT Services 2012" 29

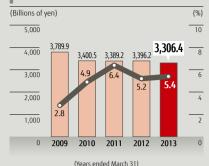
### GRAPH 2 IT Market Forecasts (Japan) (Billions of U.S. dollars)



(Source: IDC The Worldwide Black Book Q1 2013)

### GRAPH 3

### Net Sales\* and Operating Income Margin



- ■■ Net sales (left scale)
- Operating income margin (right scale)
- \* Including intersegment sales

in innovation. In the process, we will work together with customers to achieve business innovation, such as by enhancing enterprise competitiveness, and social innovation by addressing social issues.

By leveraging our extensive expertise in systems construction, we plan to actively upgrade and expand vertically integrated products that further unify and optimize hardware and software. These offerings constitute high valueadded products that incorporate our abundant expertise in integration and operations services.

In other fields, Fujitsu will extend and enhance new services surrounding cloud computing. We will dramatically upgrade our product lineup by revamping our framework of cloud products and services as the FUJITSU Cloud Initiative, in support of customer needs. We will also focus on bolstering our cloud integration structure, where we plan to have 100 Cloud Specialists and 2,000 Cloud Integrators, with the view to ensuring that cloud computing is implemented with optimal efficiency in various situations.

By leveraging our outstanding ability to provide a vertically integrated structure from highly dependable, high-performance platforms such as networks, servers, and datacenters to top-line applications—we will lead the domestic ICT market by proposing new ICT possibilities to customers and do our utmost to respond to customer expectations.

### **CUSTOMER SOLUTION PROFILE**

National Astronomical Observatory of Japan, a Member of the National Institutes of Natural Sciences

### Fujitsu's Supercomputer Helps to Unravel Cosmic Mysteries



Image: National Astronomical Observatory of Japan

The Atacama Large Millimeter/submillimeter Array (ALMA) is a massive radio telescope capable of producing astronomical radio wave images with the world's highest resolution. ALMA was built through an international partnership among the National Astronomical Observatory of Japan (NAOJ), a member of the National Institutes of Natural Sciences (NINS), and various countries in North America, Europe

and other regions, on a Chilean plateau at an elevation of 5,000 meters. This radio telescope makes it possible to see the dark regions of the universe that cannot be observed at optical wavelengths, such as galaxies that were formed shortly after the beginning of the universe, the birth of stars and planetary systems like our solar system, and matter related to the origin of life, such as organic molecules.

NAOJ and the Fujitsu Group worked together to develop and begin operations of the Atacama Compact Array (ACA) correlator, a purpose-built supercomputer responsible for processing data from the ACA. The ACA is a small-diameter interferometer system deployed to improve the quality of images, enabling high-sensitivity observations by ALMA.

Comprised of 35 PRIMERGY x86 servers from Fujitsu and a specialized computational unit, the ACA Correlator meets the rigorous requirements demanded by the project, including computational performance capable of performing real-time processing of 512 billion samples of telescope radio signal data per second at a computational rate of 120 trillion operations per second, as well as the ability to ensure stable operations under harsh environmental conditions at an altitude of 5,000 meters and pressure of 0.5 atmospheres. The system will be responsible for processing massive sets of signal data from 16 antennas on its own.

The system is equipped with a host of features that enable speedy and fine-grained remote operations, including a feature that monitors and records data processing flows at multiple points within the correlator, as well as a feature that improves fault detection accuracy by replicating the system's actual operational status using massive sets of embedded test data. These features enable equipment diagnostics, software upgrades, and other maintenance tasks to be performed remotely from Japan or the area's base camp, located at an altitude of 2,900 meters. This helps to ensure stable system operations at the high altitude, where it is difficult to dispatch a full-time engineer.

Looking ahead, Fujitsu will continue to support NAOJ's role in the ALMA project with cuttingedge technology, with the aim of harnessing ICT to help unravel astronomical mysteries.



### Market Trends

A continued recovery is forecast in the 2013 EMEA IT market, with 3.3% year-on-year growth. → GRAPH 2

By region, the UK offers no prospects for any rapid recovery in consumer spending, given that household incomes are projected to rise only marginally. IT investment should also remain subdued considering the stagnation in the corporate sector due to an export downturn. In Germany, the extent of economic deterioration has started to ease, and the economy is expected to return to an export-led recovery path by the latter half of 2013. In the Nordic region, economic conditions are expected to remain highly uncertain, with a restrained IT investment outlook especially with regard to consumer products. By contrast, IT investments in Eastern Europe and Africa are projected to continue expanding as economies in these regions continue to grow.

By product, the IT services market is projected to grow by 2.2% year on year, based on steady expansion centered on outsourcing and other services.

The overall EMEA server market is forecast to decline by 1.9% from the previous year. Market expansion is forecast mainly for emerging economies such as Eastern Europe and Africa. However, mature Western European markets are likely to weaken against a backdrop of

increasingly severe price competition and restrained investment in products due to deteriorating economic conditions. The high-end server market is expected to continue its precipitous decline as customers shift to low-end servers. Conversely, ongoing growth is expected for the x86 server market, particularly in Eastern Europe, Africa, and other emerging economies, even with the impact of sluggish economic conditions in Western European countries. The storage market is forecast to increase 0.3% year on year. As with servers, this growth will be supported by expansion in Eastern Europe, Africa and other emerging economies, despite weak conditions in Western Europe. The PC market is experiencing rapid expansion in the tablet PC sector. Accordingly, the PC market is anticipated to grow 5.4% over the previous year on the back of sharp growth projected in Eastern Europe, the Middle East, Africa, and other emerging markets, along with a recovery in PC sales in Western Europe.

### Initiatives Going Forward

In the UK and Ireland, we will optimize our customer segments. To this end, as in the previous year, we will continue to pursue further expansion of privatesector business with an emphasis on global enterprises, as we lessen our reliance on government and public-sector projects, which comprise about 60% of our business in this region. At the same time, we will work to expand business by focusing on strategic customers and key offerings such as laaS and SaaS. Furthermore, we will continue to strengthen infrastructure services, which is our core business at present, while working to create and expand new businesses such as the smart city business. Through these and other measures, we aim to upgrade and expand our business portfolio.

In continental Europe, we will drive business expansion by leveraging our existing business platform in emerging markets, most notably those with high market growth rates such as India, Russia, and the Middle East. In the previous fiscal year, our European subsidiary Fujitsu Technology Solutions (FTS) suffered a sharp decline in earnings due to increasingly fierce price competition in PC and other hardware markets. We are therefore optimizing personnel at this company as announced in February 2013. At the same time, we are taking steps to boost competitiveness in the

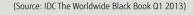
### GRAPH 1 Share of 2012 IT Services Market in the UK (Revenue Basis) 5.4% 1 Company A 5 1% 2 Company B 3 Company C 4.7% Company D 4 4% 3.3% 5 Company E Company F 3.2% Fuiitsu 3.1%

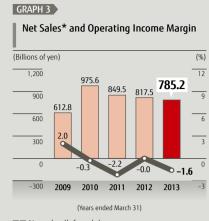
(Source: Gartner, "Market Share: IT Services 2012" 29 March 2013)

70.8%

Others

### (Billions of U.S. dollars) 800 635.2 661.9 666.1 707.6 600 400 200 2012 2013 2014 2015 2016





- ■■ Net sales (left scale)
- Operating income margin (right scale)
- \* Including intersegment sales

services business by promoting delivery standardization and offshore utilization, coupled with an enhanced lineup of cloud offerings. Through these measures, we are working to transform our operations from a product-centric business to a services and solutions business supported by the product business, in an effort to enhance earnings.

In the Nordic region, we will use our track record in the services business with Nordic-based global enterprises as a springboard for strengthening our approach to global companies, as we aim to expand business centered on our core cloud and application businesses. Moreover, to improve profitability in the services business, we are moving forward on standardizing and sharing delivery and business processes, coupled with boosting assurance functions and cutting costs by stepping up the use of near-shore and offshore resources.

### **CUSTOMER SOLUTION PROFILE**

### **Post Office**

### New system by Fujitsu cuts Post Office support costs by half



The Post Office is at the heart of UK cities, towns and villages, providing services ranging from travel insurance to vehicle tax, passports to postage and driving licences to life insurance. With over 11,700 branches across the country, the Post Office is the UK's largest retail network, and is also the UK's biggest cash handler, with more than £40 billion passing through its network each year.

At the heart of the Post Office's technology

infrastructure sits Horizon, an application that connects over 29,000 counters across its local branches. Originally developed and deployed with the help of Fujitsu, the solution needed refreshing to reduce costs and add new functionality.

Working in close partnership, the Post Office and Fujitsu rolled out a new solution – Horizon Next Generation – connecting all Post Office counters in real-time to one centralised datacenter. As a result, overall support costs have been reduced by 50%, while an improved interface now helps Post Office employees to access, understand and sell the organisation's extensive range of products and services. Meanwhile, guaranteed service levels of 99.8% ensure high availability for these business critical services.

As part of addressing the cost reduction objectives, Fujitsu moved application support and development activities to offshore facilities in India, while a new data centre, based on Fujitsu blade servers, has been established in Ireland to support the new application.

More recently, the Post Office awarded Fujitsu a significant contract to help introduce new and improved home phone and broadband services to their customers. Through this programme, Fujitsu will help the Post Office to grow their business and further enhance their brand in online services.

"Horizon Next Generation has transformed how we do business, making us a more effective organisation - and that is in no small part thanks to Fujitsu." Steve Beddoe, Senior IT Services Manager, Post Office.



### **Market Trends**

After expanding a modest 3.9% year on year in 2012, the IT market in the Americas has picked up slightly and is expected to grow by 5.3% in 2013. Meanwhile, the U.S. economy continues to recover gradually on the back of firm personal consumption, among other factors. On the other hand, there are no signs yet that this recovery will accelerate, and the U.S. unemployment rate, while declining, remains high.

### → GRAPH 2

Likewise, the IT services market in the Americas is expected to grow 4.5% in 2013 after expanding 4.3% year on year in 2012. This growth is seen as coming from the cloud computing market, especially SaaS and private cloud services.

The hardware market, overall, is expected to see sluggish sales of high end products, and on the other hand, growth with products in the lower price range. The server market is projected to decline 0.4% overall in 2013, after having contracted 0.3% year-on-year in 2012. The storage market is projected to continue firm growth of 3.6%, although less than the year-on-year increase of 5.8% recorded in 2012. The market for conventional PCs is expected to decline another 3.6% in 2013 after falling 7.6% in 2012. Sales of communication devices are projected to expand briskly by 9.3%, exceeding the 5.6% growth seen in 2012.

The North American optical transmission market is expected to expand on the back of a rise in data traffic accompanying the increasing penetration of cloud and mobile technologies, as well as video transmission and distribution. The rise in traffic is expected to drive investment in 100 Gpbs backbone systems following on from the 40 Gbps generation.

### Initiatives Going Forward

In the Americas, we are working to expand business scale and improve our market recognition with Fujitsu America at the core of business operations. Progress in this area and major business deals won in recent years, such as a major outsourcing contract with Blue Cross Blue Shield of North Carolina, will be expanded laterally and leveraged to win other big business deals. At the same time, we will strive to increase market share among small- and medium-sized enterprises (SMEs). Specifically, we will provide SME customers with cloud-based IT Management as a Service (ITMaaS), including our Patja IT infrastructure management package for SMEs. In addition, Fujitsu is now constructing a Tier III datacenter in the Province of Saskatchewan, in the Canadian Midwest. This first Tier III datacenter will strengthen our links in the infrastructure services business in the U.S. and Canada, and enable provision of a wide-range of

datacenter services to customers in and outside Canada. In this role, it will contribute to expanding the infrastructure services business for the North America as a whole.

In the applications business, we will accelerate work toward SaaS business wins for the applications of our partner companies, including SAP, Oracle, Salesforce.com and Microsoft. We are raising the added value of infrastructure services, including with cloud business deals, to promote greater profitability.

In the platform products business, we are working to expand sales of x86 servers and the entire range of platform products through channel sales, and by promoting cross-selling to our existing customers in infrastructure services, point of sales (POS), and self-checkout systems.

We are also aiming to improve profitability by boosting software sales associated with POS and self-checkout system services, provided primarily to customers in the North American distribution and retail industries.

In business development in emerging markets, we will continue to promote services and other businesses in Brazil, which is still predominantly productoriented, and to position that country as a hub market from which we will drive business development in other areas of South America. By building cloud infrastructure in Brazil for the South American

### GRAPH 1

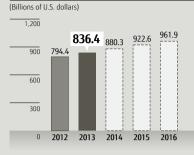
### Next-Generation Metro WDM Market Share in North America (Revenue Basis)

| 1 | Fujitsu   | 26.6% |
|---|-----------|-------|
| 2 | Company A | 20.8% |
| 3 | Company B | 19.3% |
| 4 | Company C | 11.8% |
| 5 | Others    | 21.5% |



(Source: Ovum, Market Share Spreadsheet & Analysis: 1Q13 Global ON, May 2013)

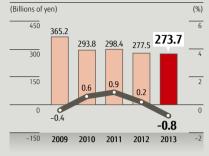
### GRAPH 2 IT Market Forecasts (Americas)



(Source: IDC The Worldwide Blackbook Q1 2013) (Americas: North and South America)

### GRAPH 3

### Net Sales\* and Operating Income Margin



- (Years ended March 31)
- ■■ Net sales (left scale)
- Operating income margin (right scale)
- \* Including intersegment sales

region and providing globally unified cloud services, we will support the operations of multinational companies throughout Latin America.

In North America's optical transmission systems market, Fujitsu will expand its business with sales of its packet optical networking platform that enables ultrafast transmission speeds of 100 Gbps, leveraging state-of-the-art Fujitsu technology to address the issue of rapidly increasing data traffic.

### **CUSTOMER SOLUTION PROFILE**

### Hallmark

### Hallmark Transforms Using the Power of the Cloud



Hallmark has long been regarded as best in business in the greeting cards industry, and is one of the most recognized American brands. Faced with the challenge of continuing to improve efficiency across their network of stores while also delivering costs savings, Hallmark CIO Mike Goodwin determined the best solution would be supported by a new IT approach – the cloud. Goodwin replaced Hallmark's traditional software and internal systems platform with

one that allows the company to be more responsive to the ever-changing business landscape. In doing so, Hallmark has become one of the first traditional franchises to move its core retail operations to the cloud.

As Hallmark's CIO, Goodwin supports a retail operation that extends across 38,000 US-based retail outlets and 2,600 Hallmark Gold Crown® specialty stores. Goodwin strategically selected the cloud-based retail-as-a-service developed and managed by Fujitsu. By incorporating the solution into their IT model, Hallmark has shifted their entire retail operation into the cloud – from in-store point-of-sale solutions and payment verification all the way through back-end transaction processing and merchandising.

For Goodwin, the draw of a cloud-based retail operating system is how well it serves all of Hallmark's stakeholders through greater flexibility, scalability, cost reduction and the ease of adding new capabilities. "We were looking for a model that would fit both our corporate-owned stores and the many independently owned businesses under the Hallmark brand," said Goodwin. "To that end, the Fujitsu cloud-based solution was critical to achieving that objective."

Hallmark's 10-year contract with Fujitsu will see its independent retailers in the US switch to a subscription-based service delivered via Fujitsu data centers, its TeamPOS systems and Tomax's Retail.net software (www.tomax.com). Retail is the first of Hallmark's strategic activities to move into the cloud – and Goodwin foresees the remainder of the retail industry will follow suit. He says, "I believe the cloud will gain much traction in our industry and will provide a significant competitive advantage for Hallmark in the coming years."



### Market Trends

China's IT market is expected to continue experiencing high levels of steady growth. This is despite a slight slowdown in the economic growth rate as the government curtails investment based on concerns about excessive manufacturing sector capacity and rising real estate prices. Over the medium and long term, the country's economic structure will shift from dependence on exports to being driven by private-sector domestic consumption. IT investment will increase with greater urbanization and foreign corporations will gain more of a presence in the country. IT investment in 2013 is projected to rise 11.1% year on year, with strong growth expected to continue at an average annual rate of 9.6% for the period from 2012 to 2016. → GRAPH 1

This investment growth is expected to continue given that China's 12th Five-Year Plan for state policy specifies information networking as an area for strategic development and cultivation.

In Asia-Pacific (APAC), excluding China, growth in the IT market is projected at 7.1% in 2013. Going forward, countries will push ahead with infrastructure upgrades in line with economic development, and growing companies will continue their IT investment. For the period from 2012 to 2016, IT spending in the region is projected to remain strong with growth of around 6.9% annually on average.

In ASEAN countries, despite concerns over sluggish European economies and the impact of restrained investment in China, necessary public and privatesector IT investment should continue to increase amid growth in consumer spending and capital expenditure. In the East Asia region, the IT market is expected to grow at a slower pace, due in part to the negative impact of South Korea's strong won on its exporters.

In India, internal demand, centered on public works projects and consumer spending, along with external demand in areas such as software services as an export industry, are expected to bring about high economic growth. Against this backdrop the willingness to invest in IT is increasing, with a projected rise of 13.6% in 2013, and a strong average annual growth rate of 14.6% between 2011 and 2015.

In the Oceania region, conditions will remain susceptible to China's economy, since China is a major destination for the region's exports. However, economic growth is projected to remain firm, supported by steady demand for natural resources. Accordingly, IT investment is expected to continue expanding during 2013. → GRAPH 2

### **Initiatives Going Forward**

In China, Fujitsu was impacted by the postponement and freezing of tenders by the government and state-owned

enterprises in connection with deteriorating Japan-China relations. Nevertheless, we will continue to participate actively in projects led by telecommunications carriers and the public sector, including government institutions, while collaborating with local partners. As Japanese companies move from China's coastal areas to inland areas and regional cities, Fujitsu will support efforts to strengthen their IT systems. We will also develop business with global companies and local Chinese enterprises by working closely with local Fujitsu Group offices.

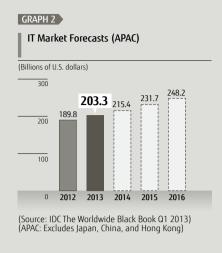
By business sector, in the datacenter and cloud services business, we will promote business deals relating to cloud services by taking full advantage of collaboration with local partners.

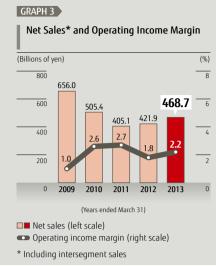
For the platform business, we will further promote business in existing channels centered on x86 servers and storage, incorporating them into solutions so as to expand value-added business sales.

In the ASEAN region, Fujitsu will expand in three areas: business services to Japanese corporations, the datacenter business, and the application development business. We are also utilizing the Fujitsu Global Cloud Platform to achieve growth in the cloud services business. In addition, we aim to expand the platform business in fast-growing Indonesia, which is the ASEAN region's largest market.

## (Source: IDC The Worldwide Black Book Q1 2013)

(China: Including Hong Kong)





In the East Asia region, Fujitsu will increase sales of x86 servers and storage through tie-ups with local partners, and expand its cloud services business. We will also focus on driving further expansion in the healthcare and distribution-related solutions businesses, where we have established a strong market position.

In India, we intend to continue efforts to increase business from Europe and the United States by boosting our <u>offshore</u> resources. Fujitsu Technology Solutions will lead our strategy and planning of the ICT infrastructure business in India, which will improve business in terms of both scale and management quality. We will also aggressively expand our sales of system products such as x86 servers.

In the Oceania region, Fujitsu will make its cloud services available across the entire market while maintaining a strong position in the IT sector. In doing so, we aim to build a business model to grow Fujitsu Group businesses outside of Japan, and further expand our market share and develop our business laterally across the region. Additionally, we will work to raise the efficiency of outsourcing services centered on offshore operations, with managed services at the core. By industry type, Fujitsu currently holds a strong position in the public sector business, but also plans to broaden business scope by expanding the network and broadband businesses, and by extending its range of infrastructure services for the finance industry.

### **CUSTOMER SOLUTION PROFILE**

The Australian National University

### Fujitsu Supercomputer Helps to Meet National Challenges



Established in 1946 as Australia's first full-time research institution, the Australian National University (ANU) has an exceptional international reputation for research. Fujitsu's relationship with ANU began in 1988 when Fujitsu Australia was commissioned to install a VP100 supercomputer as a new scientific computing platform. Immediately the university received many requests for time on this leading-edge machine.

In 2012, Fujitsu was commissioned to provide a

High Performance Supercomputer to ANU to form the infrastructure core of the National Computational Infrastructure (NCI)—Australia's national high-end research computing service which is hosted by the University. NCI, which operates as a formal collaboration between ANU, CSIRO, the Australian Bureau of Meteorology, and Geoscience Australia, together with a number of research-intensive universities supported by the Australian Research Council, provides high-end capability computational services to the Australian research community. As part of this contract, Fujitsu will also establish a collaboration with NCI, through ANU, in a number of research areas related to strategic objectives common to NCI and Fujitsu—in particular with the optimisation of the ACCESS climate modelling suite, and in the optimisation of computational codes in anticipation of next-generation processor architectures.

The Fujitsu Primergy supercomputer being installed at the NCI will be available to researchers across Australian universities and research agencies. The Fujitsu Primergy system features 57,500 x86-core, 160 terabytes of main memory, and 12 petabytes of disk storage. At the time it was commissioned, it was ranked Australia's most powerful computer and the 24th most powerful in the world. It will be comparable in scale to about 30,000 desktop computers working together in parallel.

The NCI supercomputer will take Australian research capacity to new levels in areas such as climate and weather, physics, astronomy, geosciences, chemistry and advanced materials.

Commenting on the role of the new computer, ANU Vice-Chancellor Professor Ian Young AO said: "The new supercomputer will provide Australia with a much needed capability to meet national challenges. It will take Australia's research to new levels in areas such as weather and climate modelling, computational chemistry, particle physics, astronomy, material science, microbiology, nanotechnology and photonics."