



THE UNIVERSITY
of ADELAIDE

Overview

Business Challenge

The Plant Accelerator®, a national research facility located at the University of Adelaide, faced challenges in making significant volumes of data immediately available to the global clients of its plant biotechnology research services.

Solution

IBM® Business Partner* Certus Solutions used cloud development and agile methodologies to rapidly deliver an innovative new intranet based on IBM WebSphere® Portal and IBM Web Content Management platforms. Clients of The Plant Accelerator® can now sign-in from anywhere in the world; all they need is Internet access and they can view the data collected for their project as soon as the information is created.



University of Adelaide provides food for thought

Self-service extranet enables critical, real-time research update

One of Australia's most distinguished academic institutions, the University of Adelaide has a long history of ground breaking research of international significance. The University's Waite Campus is a model integrated research and teaching precinct and home to The Plant Accelerator, a \$31 million national plant research facility aimed at boosting agricultural research and plant biotechnology.

The global demand for food is predicted to increase up to 70% by 2050 (FAO). With changing weather patterns and land degradation, there has never been a larger need for the development of high-yielding, stress and disease tolerant crops. By increasing the speed and scale of assessing plant performance, The Plant Accelerator alleviates the phenotyping 'bottleneck' and helps accelerate the transfer of advances in plant science to Australian agriculture. The world-class purpose-built facility is located on 4,500 square metres and houses state-of-the-art plant growth environments fitted with automated imaging technology and data analysis tools. It was established under the Australian Government's National Collaborative Research Infrastructure Strategy (NCRIS) and serves as the national headquarters of the Australian Plant Phenomics Facility, which includes the High Resolution Plant Phenomics Centre in Canberra.

Digital imaging technologies, high capacity computing and robotics allow the automated, high throughput, non-destructive measurement of plant growth and function (phenomics).

Phenomics provides a way of studying the growth response of plants to various environmental stimuli, such as water deficit or soil salinity.



Business Benefits

- Fast, secure, real-time access to large volumes of sensitive research data for their many customers, each with unique requirements
 - Improved research client satisfaction levels
 - Business advantage in a competitive global market
 - Increased staff productivity levels
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Client projects are designed to address their specific research question. Temperature regime, watering and nutrient levels are controlled to assess growth and development of various plant species. National and international academic and commercial plant scientists use the data to understand and relate the performance of particular plants in specific conditions.

The reporting time-lag challenge

The Plant Accelerator's imaging system generates data which is captured and stored in a large database. At the completion of an experiment, datasets are extracted and exported to another database for analysis by bioinformaticians. Analysis results are then provided to the customer on DVD.

With the large demand for the service, the team began to face problems with reporting, especially for larger and more regular research projects. Although the data is captured in an automated manner, it was not available to the data collectors at the click of a button.

Data had to be manually collated and burnt to a device, such as a DVD, and then physically distributed to clients around the world. Data updates became labour intensive – which meant the team were investing considerable time in preventing inadvertently caused human errors.

Enabling real-time updates

The Plant Accelerator discussed these challenges with IBM who recommended IBM Business Partner, Certus Solutions, based on their ability to understand an organisation's challenges and marry that with deep technical and practical expertise in the areas of data management and reporting via a self-servicing secure website.

Bogdan Masznicz, Bioinformatician at The Plant Accelerator explains, "It was critical that the solution we chose had the ability to publish the information in a secure environment for each client as research data produced by the facility is owned by our clients and treated as confidential until the client opts to publish it."

Working collaboratively with the team of The Plant Accelerator, Certus provided the project delivery and the IBM WebSphere infrastructure with the University's in-house IT team assisting with data extraction from the database and on the creation of database structures and queries.

Certus deployed cloud-based development and agile methodologies to speed project delivery. Use of the IBM Portal Jump Start program also worked well, as it offered a fixed engagement on a fixed timeframe for delivering specific outcomes – which meant the facility could clearly set expectations and measure the benefits.

IBM Portal Jump Start is a WebSphere Portal solution that provides organisations with access to key information – securely, anywhere, anytime. Using a combination of IBM WebSphere Portal Server and IBM Web Content Manager, Jump Start directly connects to the facility's database to enable real time reporting.

Solutions Components

Software

- IBM WebSphere Express V7
- IBM WebSphere Portal Server
- IBM Web Content Manager
- IBM Portal Jump Start

IBM Business Partner

- Certus Solutions
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“The IBM solution enables the University of Adelaide’s Plant Accelerator to provide a unique offering that differentiates us in a competitive market.”

— Bogdan Masznicz, Manager, Bioinformatics
The Plant Accelerator



Clients can sign-in from anywhere in the world; all they need is Internet access and they can view the data collected for their project as soon as the information is created. The simple user-friendly interface enables clients or even the general public to view analysed data, growth curves, water use efficiency and other data online. Registered users are able to access all their Plant Accelerator projects and obtain, analyse and view images – right down to each individual plant.

‘Self-service’ revolutionises the path of research

The simple use of web tools allows an automated and consistent delivery of information to the scientists, researchers and people involved with the project. The self-service model enabled via IBM WebSphere Portal Server and IBM Web Content Manager effectively cuts out the ‘middle man’, making the whole process faster and less prone to errors.

Clients have direct access to the data they need –when they need it. This means vastly improved customer service and satisfaction levels.

The Plant Accelerator team has also experienced improvements to productivity levels. Staff are now free to turn their attention and resources to other important tasks, and finding ways to improve the services provided even further.

Bogdan Masznicz says, “The IBM solution that Certus Solutions delivered enables us to provide a unique offering that differentiates us in a competitive market.”



About Certus

Certus has a reputation for excellence, the highest quality staff, and the delivery of true business value to more than 600 customers. These organisations appreciate its end-to-end services that include the widest range of IBM-based solutions in Australia and New Zealand – from collaboration, information and assets, to the web, infrastructure and the most complex business analysis.

About IBM Collaboration Solutions

Businesses are built on relationships, both within and outside your company. Social businesses understand that those relationships must have fluid interactions between employees, customers and partners to drive maximum business value.

IBM social collaboration solutions can help your business become a social business. Let IBM and our expert business partners help you connect your employees, customers and partners so they can share their knowledge and expertise to improve and accelerate the pace of business and deliver unprecedented return for the time invested.

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