

Case Study



NCache is everything we need, flexible, scalable, easy to configure, it is excellent! It is everything we expected of it. We chose NCache with a long-term vision and not for a short-term win.”

Paul Kirkley
Chief Technology Officer
Digital Spark Ltd.

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Healthcare Software Redefined

NCache delivers robust enterprise grade assurance and provides Digital Spark with the ability to make configuration changes without stopping the cache and adversely affecting data availability.

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Healthcare Software Redefined

Countries or Regions:

UK

Industries:

Healthcare software

Customer Profile:

Michael J. Bell and Gavin Kipling founded Digital Spark Ltd. in March 2010. Both left positions within the National Health Service (NHS) located in the United Kingdom and using their extensive experience, launched a product that was both necessary and relevant to demanding needs of the NHS.

Known as CaptureStroke, the software product Digital Spark created is targeted at revolutionizing the accepted methods of stroke patient care delivery and data collection. Developed in full conjunction with clinical teams and supported by the North of England Cardiovascular Network, CaptureStroke is now in use at 21 hospitals across the UK, where it has become the UK market leader in the provision of data collection assurance and care performance monitoring for stroke teams across the whole stroke care pathway.

The concept of Digital Spark was born when the founders worked together to lead the 17-strong web development and IT team of a North East Primary Care Trust. This resulted in significant revenue generation for the NHS and the team winning two international awards.

While working for the NHS, they realized they could use their collective skills and experience to help create software collaboratively with clinicians, and deliver it in a cost-effective and easily accessible format. With first-hand experience working at the NHS, Bell and Kipling fully understood the financial pressures on NHS trusts. They knew they needed to be managed alongside the need for excellent standards of care and accessible and user-focused relevant technology. Thus, Bell and Kipling set about creating products to satisfy those exacting requirements.



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Planning Ahead:

Digital Spark did not wait to encounter technical challenges associated with the ability of NHS's clinicians to readily and easily access the vital data it presented to them via their CaptureStroke product as the product scaled. On the contrary, with foresight the new venture anticipated growing numbers of NHS clinicians coming to their site, using their product, and thus, moved forward expeditiously to find the right solution to avoid performance issues.

Admittedly, however, there were some challenges at the outset, Paul Kirkley, Chief Technology Officer at Digital Spark, noted. "Those had to do with finding the right distributed cache provider that had all the polish and all the user interface configuration to make things quick and simple," he said.

In the short term, Digital Spark's number one requirement was for its system to be constantly available to clinicians. That was imperative. No "and's, if's, or but's" involved here. Clinicians tapping into CaptureStroke must always quickly and easily access that data in real time 24/7 without any difficulty or without waiting for it.

Scalability was the number two requirement that Digital Spark had in mind. "We didn't need the true extent of scalability at the outset," Kirkley said. "But we needed it as a long-term investment and as clinician traffic continues to grow."

Today, clinicians access CaptureStroke via the NHS domain application platform. The NHS has a secure ring fenced network protecting the sensitive data its systems contain. Each organization or trust within that network has its own network and within each network or trust, each hospital has a secure sub-network. Digital Spark is among those organizations within the NHS domain application platform, and growing numbers of clinicians can find via that route the valuable information CaptureStroke presents.

Alachisoft Product:

NCache

Customer Needs Met:

- High Availability
- Future scalability

About Alachisoft:

Alachisoft, a California based company, designs, develops, and markets NCache and TierDeveloper for .NET. NCache, a clustered object cache for .NET, allows customers to boost performance of their applications by as much as 10 times simultaneously enhancing application scalability and reliability. And, TierDeveloper, an object to relational (O/R) mapping code generator for .NET, cuts down development time by 50%.

Visit our website at www.alachisoft.com or send email at sales@alachisoft.com.

You can download a free 60 days fully working trial of NCache from here: www.alachisoft.com/ncache

NCache Solution:

NCache provided those answers to Digital Spark. "NCache is everything we need, flexible, scalable, in one word, brilliant! It is everything we expected of it. We chose NCache with a long-term vision and not for a short-term win." Kirkley said.

In particular, the high availability NCache offers is at the top of the list of features Digital Spark values. This means that NCache is highly stable and mitigates the risk of outages or downtime and it also provides Digital Spark the ability to make configuration changes without stopping the cache.

For instance, Digital Spark is able to bring down one of its cache servers without stopping the entire cache. Or if it wants to add a new cache server, it can be done without stopping the cache. Plus, it can add new clients or increase cache capacity without stopping NCache or incurring downtime for any reason.

Thanks to NCache's partition/replicate topology, high availability is assured for clinicians coming to Digital Spark's site. Here, each cache partition is replicated so that one cache server contains a partition and a copy of another server's partition. It contains its own partition and a copy or a backup of another server's partition. This way, Digital Spark doesn't lose any data in the event one server goes down.

Also, NCache provides Digital Spark with the special feature of second level caching. "Along with our other technologies and services, "NCache's second level caching is highly important so that we can provide maximum assurance that clinicians coming to our site have access to their data immediately and that this data is constantly available and delivering valuable insights in real time."

Kirkley noted.

NCache is used as a second level cache for NHibernate, an open-source object relational (OR) mapping engine. NCache implements an L tool cache provider for NHibernate and Digital Spark plugs in NCache as a second level cache for NHibernate without any code changes to their application.

Moreover, NCache provides Digital Spark the critical scalability it requires as increasing amounts of clinician traffic come to their site. Scalability has two meanings. One is Digital Spark can effectively handle peak clinician user loads since every application goes through its peaks and valleys as far as the users who are logged in at any point in time. The second meaning of scalability refers to increasing total capacity or in the case of Digital Spark, constantly increasing the number of clinician users. Scalability means having the capability of growing with the number of users without adversely affecting performance.

Pioneering Further Technology:

Supported by the North of England Cardiovascular Network, Digital Spark is pioneering further technology to challenge the status quo in other areas of healthcare, with the creation of CaptureTherapy – for use by therapists, to chart the progress of stroke patient rehabilitation – CaptureTIA, for the care of patients suffering from minor strokes or related symptoms, and CaptureRACPC for use in rapid access chest pain clinics. Working on the uniquely accessible format of the ITK-accredited CaptureStroke, these systems allow data to be analyzed and patient care to be monitored with unprecedented ease.

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