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White Paper
Delphic AP

Notes Domino - a powerful and flexible development platform

Delphic AP and Notes Domino

Delphic AP is a laboratory information system developed and supported by Sysmex. Delphic AP manages the anatomical pathology laboratory workflow from specimen receipt through to reporting and lab management.

Built on the Notes (client) and Domino (server) platform, Delphic AP has undergone continuous development since its launch in 1996, including the introduction of management reporting capabilities, specimen tracking functionality, and more recently, compatibility with digital pathology systems.

Delphic AP was first developed on Lotus Notes 4.0, which later became IBM Notes. In December 2018, IBM announced the sale of Notes and Domino to HCL Technologies, in what is widely regarded as a positive move, securing the future of the platform.

This paper discusses the advantages of the Notes Domino development platform for Delphic AP and looks to the future of the platform as it enters a new phase of investment and development under HCL ownership.

Notes Domino - a powerful and flexible development platform

The anatomical pathology laboratory requires a system that provides detailed end-to-end workflow management and sophisticated reporting tools. Notes Domino is a highly powerful and flexible, well-proven client server development platform. Its strengths have enabled Sysmex to develop Delphic AP to meet the unique demands of the anatomical pathology laboratory.

Database Strengths
Domino is primarily a database system with a built-in application development environment. This provides a powerful and flexible store for pathology data along with easy means to customise Delphic AP to individual lab requirements. Request data in Delphic AP is indexed by Domino so it is easy to find requests based on fields or report text as required. Request and lab work information is selected and presented in various views that relate to the appropriate step in the workflow. These are combined with relevant actions for the user to progress the request or lab work.

In addition, it is possible to extract information from Delphic AP using features provided by Domino or utilised by Delphic AP.

- The Search Enquiry functionality makes use of Notes' full text searching capabilities. Search results can be outputted to a file, which can then be loaded to an Excel spreadsheet, reporting tool or a relational database.
- Delphic AP's advanced data warehouse module is a relational database (SQL or Oracle) which provides analysis on data exported from Delphic AP.
- Third party analytics tools can also readily connect to the Delphic AP database for search queries, extracting data into data visualisation tools.

Document Workflow
A key requirement of the AP laboratory is a document management system that can mirror the case workflow from specimen receipt and lab preparation steps through to pathologist reporting and secretarial functions. A fundamental strength of Notes is its document management and workflow capabilities, which are superior to comparable systems - a key reason why Notes was originally selected as the Delphic AP development tool in 1996.

Word processing
The Notes client has advanced built-in word processing tools. This means it is easy to create, edit and format well-presented reports, including the ability to insert images. This is ideal for anatomical pathology reporting where rich text and clinical images are essential to the report presentation.

Superior User Experience
The flexible workflow management and feature-rich functionality of Delphic AP simplify multi-step lab processing. Delphic AP offers different users within the AP lab - pathologists, lab scientists, lab assistants and secretarial staff - all the tools they need to best manage their work.

Customers comment that Notes is an excellent platform for Delphic AP because of its database structure and document management strengths, which are especially useful when doing amended reports (corrections) and supplementary reports for special work.

Replication
Domino provides mechanisms to support failover, load balancing and backup which are so important in a lab environment. Database replication and clustering are standard features allowing two or more Domino servers to provide resilience, share the user workload or provide a means of offsite backup as required.

Security
Security is a high priority for all healthcare organisations and vital where patient information is involved. Delphic AP's advanced security and audit trail features are built on the powerful and sophisticated Notes security model.

Backward Compatibility
Developers have taken great care to ensure backward compatibility for Notes applications. This means if the Notes client is upgraded, customers with the Delphic AP application built on a previous version will continue to operate as per normal.

Looking to the future

Prior to IBM's sale of Notes and Domino to HCL Technologies, HCL had been developing the platform under contract to IBM, including the V10 release in October 2018. Since its acquisition of Notes and Domino, HCL has stated its commitment to these products, and its intention to make significant investment in their future[1]. The company has established a new division, HCL Software, to develop and deliver what it calls its "next-generation software portfolio" and describes the release of HCL Notes V11 and HCL Domino V11 in December 2019, as representing its commitment to "relentlessly modernize and innovate these products."[2]

The acquisition is also seen as positive by other industry players, with business partner, Prominic, commenting that HCL appears to value the input of the Domino community, noting that it is actively gathering feedback from business partners and users[3]. Another business partner, Teamstudio has also highlighted HCL's communications and transparency.[4]

The product innovations promised by HCL will go hand-in-hand with continued support of the existing Notes and Domino technologies and development environments. For Sysmex, this means no immediate changes to Delphic AP but rather an evolution, as we make use of new technologies to deliver new features.

HCL is also expanding support for web-based components to use new technologies such as Node.js and REST. The Delphic AP Single Piece Workflow module utilises web-based technologies so will benefit from continued advancements in this area.

Sysmex is committed to the future of Delphic AP and the ongoing release of new versions and updates to the product. Key to our roadmap will be integration of new technologies in the platform as they become available and we are excited about the potential this will offer to our development plans. This ensures Sysmex can continue to support and add new features into Delphic AP, benefitting the laboratory into the future.

Design and specifications may be subject to change without prior notice due to further product development.

Delphic AP is not a medical device as it does not have a therapeutic purpose.

Supporting References

1 https://www.hcltech.com/press-releases/press-releases-business/hcl-technologies-announces-close-acquisition-select-ibm

2 http://domino.elfworld.org/hcl-announces-an-early-xmas-present/

3 https://prominic.net/2019/07/02/the-future-of-notes-domino-with-hcl-our-perspective/

4 https://www.teamstudio.com/blog/order-and-renew-your-hcl-notes-and-domino-licenses-through-us-announcing-teamstudio-as-hcl-partners

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