DIPS ™ (DISTRIBUTED IMAGE PROCESSING SYSTEM)

A WEB BASED APPLICATION FOR DISTRIBUTED IMAGE PROCESSING

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A White Paper

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Introduction:

Digital Pathology refers to an integrated process of converting glass microscope slides into high-resolution, whole-slide digital images that can be viewed, managed, analysed, shared and interpreted by the Pathologist with a computer instead of a microscope.

It refers to a dynamic image based environment which provides fertile soil to various computer aided detection and analysis solutions that help generate objective and meaningful information from the digital images.

The Problem:

Wider application of digital pathology in the laboratory means that the size of images and metadata to be stored keeps on increasing, consequently increasing the demand for storage space. Along with the increased demands on storage space the speed with which these images need to be analyzed and retrieved also has to keep up with the growing demands of this dynamic diagnostic field. The system has to be scalable and amenable to regular updates, considering the rapid changes that developers make to existing analysis and storage solutions. As image processing algorithms become more sophisticated and varied, the amount of image data used for processing becomes larger and storing it on a PC or normal work station becomes difficult.
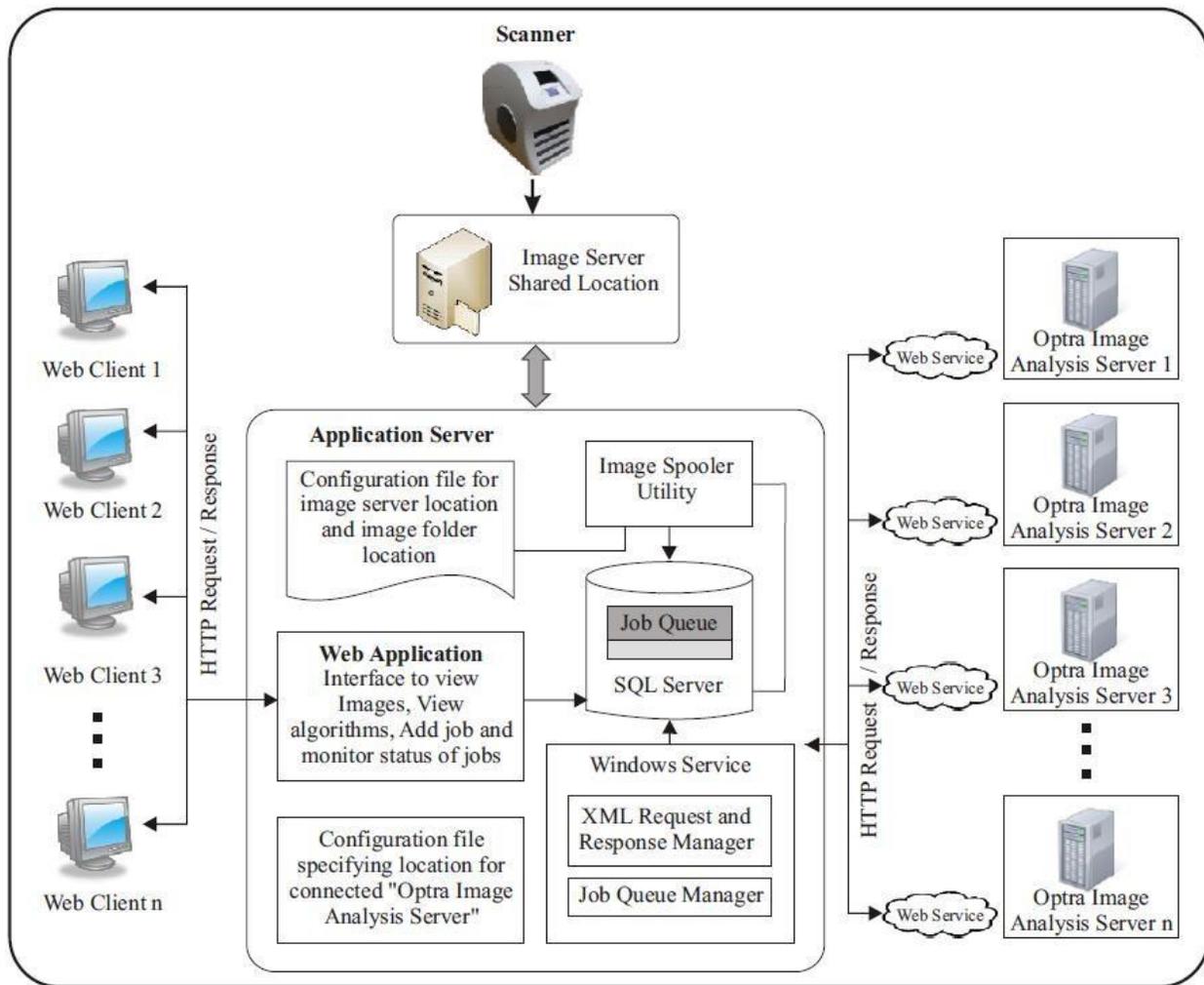
The Solution:

A distributed image processing system **DIPS ™**; is the answer to the growing demands in terms of storage space, scalability and speed, of the dynamic image based environment that is Digital Pathology.

Benefits:

DIPS ™ offers multiple benefits like:

1) Being a web based service, no time consuming and cumbersome installation and configuration tasks

2) No expenditure on outright purchase of software and hardware

3) Flexible, scalable and convenient to use

4) Easy and convenient addition and modification of new algorithms by developers

5) Image spooler utility, job queue facility and performance counter services for systematic and automated addition, routing and monitoring of jobs assigned to multiple connected image processing servers

6) Facility for user to view job status for submitted jobs

7) Easy integration with the image analysis and image management systems

8) Anytime anywhere access because of the web based architecture

9) Status alerts to mobile devices to keep the user updated at all times

10) Compliance with 21CFR part 11 to ensure security and confidentiality of data

Technology Framework:

Summary:

DIPS ™ is a flexible, convenient and scalable web based distributed image processing solution that helps the anatomic pathology laboratory in the efficient analysis and management of large size of data with use of distributed image processing systems through which users can use the latest, intensive image processing service without much installation and configuration while algorithm developers can update existing algorithms and add new ones in a convenient way.

Getting started:

Please write to us at <u>info@optrahealth.com</u> for a live demo of the solution.