



# Smart for RTP at multiple sites

## Philips Pinnacle<sup>3</sup> SmartEnterprise configuration

### Who/where

Radiological Associates of Sacramento  
Medical Group Inc., Sacramento, USA

Stan Skubic, PhD, Senior Clinical Physicist

Ali Layeghi, RTT, CMD,  
Medical Dosimetry Manager

Dave Asche  
Director of Physics and Engineering

Mark Logsdon, MD  
Chairman, Radiation Oncology Division

### Challenge

Managing radiation therapy planning (RTP) over multiple sites.

### Solution

Philips SmartEnterprise has helped the radiation oncology centers improve how they work with an enterprise configuration over seven sites, allowing faster, smoother RTP workflow and enhancing patient care. SmartEnterprise is making a significant difference in three major areas: maintenance, operations, and speed.

With Pinnacle<sup>3</sup> since 1996, RAS offers years of experience with an advanced array of diagnostic imaging, interventional radiology, and nuclear medicine imaging technologies, as well as radiation therapy through a network of facilities. The seven radiation oncology centers treat hundreds of patients each day.

Fast, accurate, and interactive treatment planning tools have made Philips Pinnacle<sup>3</sup> the leading RTP system in performance and reliability at RAS.

### SmartEnterprise centralizes computing power

Compact yet powerful, the new SmartEnterprise configuration has helped RAS to leverage thin client technology to centralize Pinnacle<sup>3</sup>, moving all computing power and data storage from the desktop into the data center to expand accessibility, maintenance, and management of the system across remote facilities.

### Keeping the database current

Stan Skubic has worked for 13 years as a manager of the Pinnacle<sup>3</sup> system and used to oversee 13 independent servers across seven facilities. Previously, keeping the physics database current was a challenge because he needed to interact with all 13 servers whenever there was an update. Also, as plans were moved among sites, changes in the physics database between servers sometimes required the dosimetrist to

recompute the plan, adding 15 to 20 minutes of delay. Now there's one database, greatly simplifying the process.

### Easier backup and disaster recovery

In the past, backup by tape was time-consuming and difficult. For disaster recovery, RAS now performs an automated full backup at the end of every week, with incremental backups throughout the week. Currently the new system has a 6TB hard drive (used for both the clinical data and backup). RAS is looking into implementing a permanent patient-data backup solution.



Stan Skubic, PhD  
Senior Clinical Physicist

# PHILIPS

# One, and only one, plan

With SmartEnterprise only one version of a treatment plan exists, and access to any plan from any location is virtually instantaneous. Multiple people at different sites can review the same plan, eliminating confusion about different versions of the same plan, enhancing patient care. One plan, rather than multiple files, also means a more reasonably sized database.



Ali Layeghi, RTT, CMD  
Medical Dosimetry  
Manager

RAS was the first practice in the US to implement SmartEnterprise, installing it in 2008. Dosimetry manager Ali Layeghi, with RAS for 17 years, was instrumental in the rack system implementation, and reports that physicians, physicists, dosimetrists, and therapists are highly satisfied with its performance for both CT simulation and treatment planning.

## Everyone up to speed

Plans open faster with the new system, enhancing operational efficiency. In the past, the team worked with a range of machines with differing speeds. Now everyone has the same capabilities, including DMPO and IMRT, and uniformity of calculation speed.

“This is one of the few products I’ve worked with that is better than advertised.”

Stan Skubic, PhD  
Senior Clinical Physicist

The RAS team feels that accuracy has always been there, but now physicians are happier because they can see their plans faster. Faster calculations can lead to an improved process. In some cases calculations that took 20 minutes now take just three to four minutes, an important advance for the stereotactic body radiotherapy program widely used in the treatment of lung patients.

## Improved access from home

P<sup>3</sup>PC emulation software has given greater access to physicians and physicists, who can log on to any PC and access Pinnacle<sup>3</sup> for contouring and review of plans from home with the same speed via a terminal server. This solution, essentially acting as another thin client, has multiplied the effectiveness and the efficiency of the enterprise system.

“As long as the plan is closed anyone, anywhere can open it. Everyone’s looking at the same plan now, and our database is smaller and more manageable.”

Ali Layeghi, RTT, CMD  
Medical Dosimetry Manager

# Voted the number one imaging center in the US

Radiological Associates of Sacramento Medical Group Inc. (RAS) is the largest private radiology practice in Northern California and has three divisions (Diagnostic Imaging, Nuclear Medicine, and Radiation Oncology) with more than 900 employees, including physicians, other health-care professionals, and support staff.

The group is Northern California's most established medical practice specializing in radiology and radiation oncology, operating 17 diagnostic imaging/nuclear medicine facilities and seven radiation oncology centers throughout the greater Sacramento region. RAS was voted the number one imaging center in the US by *Medical Imaging Magazine*, 2007.

[www.radiological.com](http://www.radiological.com)



“The scalability of the system is a real plus. We always know that if we need more we could add more.”

Dave Asche  
Director of Physics and Engineering

## Facilitates remote management

Monitoring of the system is easy. Status of the rack can be checked online, and SmartEnterprise has had a minimal impact on the IT group, which is important because the group is often in a different location than the systems themselves.

RAS had 28 Mbps when they started testing and now have 100 Mbps lines with a corresponding improvement in quality.

## Optimal scalability

SmartEnterprise is extremely scalable. RAS could, in theory, add any number of compute modules to its SmartEnterprise system, providing essentially unlimited scalability.

## A long-term working partnership

RAS has been a long time Pinnacle<sup>3</sup> user and has been happy with the solution overall. The team affirms that the physics behind the beam models is robust, and feels that Philips is collaboratively developing solutions that matter to them and is a strong partner in improving radiation therapy planning.

“The people at Philips are extremely professional; they try hard to make it work. Out of a lot of vendors, the people there are just great.”

Dave Asche  
Director of Physics and Engineering



“We're seeing plans faster, and it's making a difference in our care.”

Mark Logsdon, MD  
Chairman, Radiation Oncology Division

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**How to reach us**

[www.philips.com/healthcare](http://www.philips.com/healthcare)

[healthcare@philips.com](mailto:healthcare@philips.com)

fax: +31 40 27 64 887

**Asia**

+852 2821 5888

**Europe, Middle East, Africa**

+49 7031 463 2254

**Latin America**

+55 11 2125 0744

**North America**

+1 425 487 7000

800 285 5585 (toll free, US only)

**Philips Healthcare**

Global Information Center

P.O. Box 1286

5602 BG Eindhoven

The Netherlands

Please visit [www.philips.com/radiationoncology](http://www.philips.com/radiationoncology)



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