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## **Oryx-Pecos™ Systems and the Use of Third-Party Software**

### **Abstract**

The older Avaya communications systems operated using an Avaya-proprietary operating system call Oryx-Pecos. This paper discusses the general reasons why third party software cannot be loaded onto an Oryx-Pecos-based system.

## 1. Introduction

Early communication systems produced by Avaya utilized a proprietary operating system called Oryx-Pecos. These systems are still in use today. But under today's climate of network security and tight budgets, customers are interested in loading corporate-standard software, such as virus scanners or network monitoring software, onto existing systems which are attached to the corporate network.

This paper discusses the technical reasons why third-party software cannot and should not be loaded onto an Oryx-Pecos-based system.

## 2. Oryx-Pecos

At the time that Oryx-Pecos was developed, no other operating system meet the needs of Avaya (at that time AT&T) for use in their communication system. The need for a high-speed, real-time, message-based process scheduling system simply did not exist.

As such, Oryx-Pecos was conceptualized and developed with a single application in mind: to be the underlying operating system for enterprise communications systems. Because there was a single goal, little effort was made to create the ability to incorporate third-party software. Oryx-Pecos-based applications are a combination of operating system resources and applications finely tuned to perform real-time call processing.

Today, features that you would find in more commercial operating systems do not exist for Oryx-Pecos. Such commercial features and capabilities would include:

- Documented API structure,
- Dynamic application execution capability where additional application can be loaded and executed without need to compile and link them directly to the operating system,
- A Disk-Operating System compatible with standard file systems used today,
- Dynamically-link libraries,
- Memory management for strong separation of applications and operating system processes, and
- A commercially-available development package for Oryx-Pecos

As a result of the underlying design of Oryx-Pecos, third party software cannot be loaded or executed unless it has been complied with the Oryx-Pecos utilities and libraries and has been linked with the call-processing application and the underlying Oryx-Pecos process scheduler/operating system.

The fact that the operating system is proprietary and not compatible with any other operating system makes the applications and operating system inherently resilient to viruses and worms based on Unix or Microsoft-based operating systems.

### 3. Conclusion

The goal of this paper was to discuss the technical reasons why third party software cannot be executed on an Oryx-Pecos-based system. It comes down to the fact that this operating system does not provide the mechanisms to support third-party software and is inherently incompatible with applications written for other operating systems. This incompatibility also provides a natural, inherent, protection against viruses and worms written for other, more popular operating systems.

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