

# JCopia™

*Jini™ Network Technology Service  
for IP Connected Devices*

Phone, Intelligent Meters | Home Gateway, Set-Top Box | Appliances

## JCopia, Jini™ Network Technology Service for IP Connected Devices

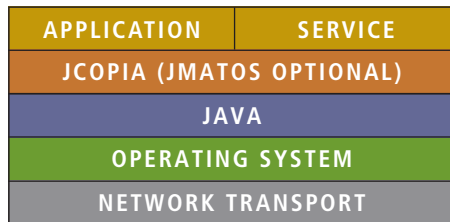
JCopia is a Jini Network Technology compliant software product that enables remotely connected Internet devices to discover services and share information without the need for human configuration and management.

With JCopia, remotely connected Internet devices such as set-top boxes, internet modems, wireless modules or appliances can autonomously configure, update and load themselves with the right software and services. These devices act as Jini Clients and are able to dynamically update their Operating Systems, Java™ Virtual Machines, configuration, and the digital services they provide to the user.

Embedded processors running JCopia can offer and consume Java-based services. The service can be anything offered by a computational, networked device, including access to a network, a driver, an application or graphical user interface.

In the case of a set-top box or appliance brought into the home, these devices can auto deploy, find a network, download initial services such as digital content or an intelligent meter. Automatic updates are managed by JCopia that can load, swap and discard services or applications autonomously and efficiently. Aside from future proofing the device, the user has the benefit of a more capable device without having to be involved with the on-going configuration and management.

### JCOPIA NETWORK ARCHITECTURE



### JCopia Design Principles

1. Is fully Jini technology compliant.
2. JCopia was designed to allow for the complete replacement of the operating system on a remote device. Not simply the addition of software packages.
3. JCopia was designed to be centrally managed via the web to allow for customer configuration.
4. Can fit on very small devices, with limited processing power and storage.

### JCOPIA FEATURES

**JCopia has been executed in the following environments:**

OS/Framework: Linux 2.6.27

JVM: Sun JDK 1.5.0

Processors: AMD Turion 64, AMD Athion

Memory Usage: Between 100-200kb depending on garbage collection algorithm.

### System Requirements

Minimum of Java 1.2 compliant JVM  
and .5MB free RAM.

### Developer Benefits of JCopia using JMatos® and Jini

- Jini applications and services are not restricted to the enterprise level, but can be developed and deployed across a broad range of platforms, from big-iron servers, PCs, and laptops, to PDA's or even embedded sensors, control systems, and appliances.
- Reduction in time and cost to develop and deploy applications by leveraging standard Java and Jini building blocks.
- Create applications and services that work across platforms.
- Take advantage of Jini technology's ability to function reliably in dynamic network environments. Points of failure can be minimized or eliminated, maximizing network service access.
- Minimize management and maintenance overheads.
- Future proofs applications used by clients, ensuring they are always current, avoiding costly downtime for upgrading and versioning issues.

### JCopia Key Benefits:

Addresses the issue of costly and complex delivery of services to remotely connected Internet devices by enabling these devices to auto deploy and self manage.

- Uses Jini Network Technology mechanism such as:
  - **Leasing** – enables network self-healing and self-configuration, improving fault tolerance
  - **Code mobility** – moves data and executables via a Java object over a network, (write once, run anywhere)
- Provides an environment for creating **dynamically networked components, applications, and services that scale** from the device to the enterprise
- Offers an **open development environment** for creative collaboration
- **Protocol agnostic** – provides the ultimate in design flexibility
- **Resiliency** – Networks readily adapt to changes in the computing environment
- **Integration** – Allows fast, easy incorporation of legacy, current, and future network components

### What is Jini Technology?

Jini Network Technology developed by Sun Microsystems Inc., defines mechanisms to support the federation of machines or programs into a single, dynamic distributed system. Devices participating in such a system can enter and leave at will, can tolerate network and system variability, and can offer “services” and resources to other devices and systems in the federation. A “service” refers to an entity that can be used by a person, group of people, organization, program or other service. The service can be anything that can be offered by a computational, networked device, including access to a network, computation, storage, information, access to hardware (such as a printer, access point, etc.) or another user.

### Ordering Information:

For information on commercial licensing arrangements contact [sales@psinaptic.com](mailto:sales@psinaptic.com) or call PsiNaptic at 1 (403) 720-2531

For system integration and specific technical consultation please contact [sales@psinaptic.com](mailto:sales@psinaptic.com) or call PsiNaptic at 1 (403) 720-2531. Product Sheet for JCopia is available at [www.psinaptic.com](http://www.psinaptic.com)

JCopia Version 0.9 for Linux

### ABOUT PSINAPTIC

**PsiNaptic implements distributed computing frameworks such as Jini technology for use in very small microprocessors. By combining this technology with Java technology and standard wireless protocols such as Bluetooth®, PsiNaptic works with OEMs to add low cost, low power, wireless networking and spontaneous interaction capabilities to everyday objects.**

For more information on PsiNaptic and our pervasive computing technologies visit us at:

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

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