

Expert Viewpoint

SoC's in China: building on solid foundations

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There exist several technical standards, mature, proven and available for deployment, but not in use in China, today. The reason China has not yet converged on standards is the result of a combination of issues, but key among them is the political environment, growing pains from such rapid growth and the fundamental lack of an infrastructure to deploy the standards and police the results. [\[read more\]](#)

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Inevitably, commerce should and will not wait for perfection of infrastructure and therefore, there are some practical steps China can take immediately, such as to:

- * Track the use of IP (blocks)
- * Employ a common interface, or socket on all IP
- * Deploy a common standard for IP assessment and quality
- * Demand device drivers from IP providers

These proposals are already supported by mature, proven standards offering a significant advantage over the alternatives of chaos and inefficiency. Let's consider these schemes individually:

Tracking the use of IP

The VSIA (www.vsia.org) offers two standards to address this:

The Virtual Component Identification standard (or, VCID) and
The Soft IP Tagging standard (or, IPP4).

VCID 2.0 (www.location.org) sets the format to keep a record of all IP and instances, used in a SoC design. The standard is already in popular use with both major foundries and independent device manufacturers (IDM's).

The second standard is the IPP4 (www.location.org) that allows IP blocks and their version history to be tracked from their origins in the design process, if needs be, from RTL instantiation, completely through the design cycle and, down to the level of GDS II data. This standard has been heavily researched and developed by half a dozen major corporations and is released to the VSIA membership.

Simply stated, we may not yet have schemes in-place to protect all design data at all times, but we can at least demand that honest users make useful records and accounting of all IP employed in their SoC designs. VCID and IPP4 are the tools for this job.

A common socket

This already exists and is available from OCP-IP (www.ocpip.org). The standard is mature, shipping and endorsed by the many member companies of the organization.