Traceability, What It Is And How To Get It

Michael Jones
Defense Supply Center Columbus
DMSMS Workshop
December 2005

Agenda

- Traceability, defined
- Other terms
- The Pipeline
- Documentation
- How far back?
- Verification
- Summary

Traceability Defined

- Per Merriam-Webster "Trace" is "to discover by going backward over the evidence step by step".
- Traceability is the ability to understand the origins of an item to the point desired using available documentation.

Traceability Defined

- For microcircuits this means being able to determine the manufacturer of a device, including:
 - Place of manufacturer
 - Quality system (Class)
 - Technical requirements and characteristics
 - Date of manufacture

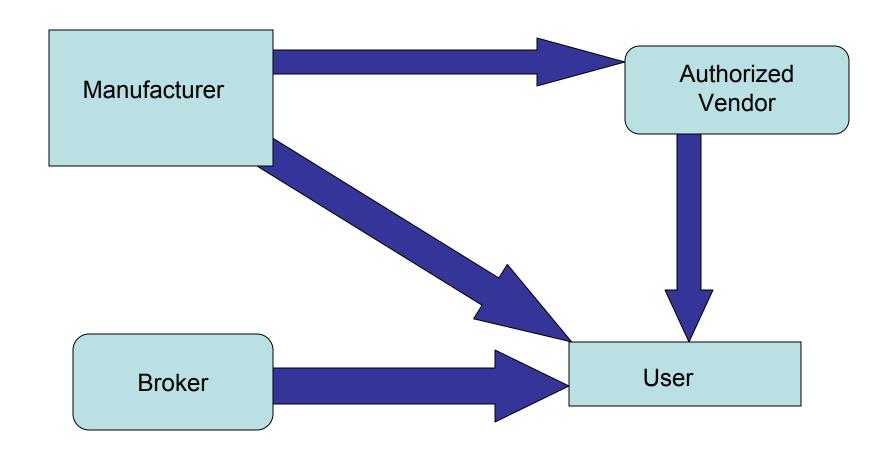
Other Terms

- Manufacturer The organization that assembled the part (could be the die fabricator – but may not be)
- Authorized Vendor An organization with a formal agreement with the manufacturer to distribute their products
 - After-market

Other Terms

- Independent Supplier or Broker An organization with no formal agreements or relationship with the manufacturer but is able to supply product or mediate the sale of product directly from the manufacturer or some other source.
 - After-market

The Pipeline



Documentation

- Documentation should identify:
 - Manufacturer
 - Date of Manufacture
 - Part Number
 - Lot Number
 - Serial number if applicable
 - Place of manufacture
 - Drawing number if applicable

Documentation

- Documentation should be signed by a company representative from the manufacturer and other organizations involved.
- Documentation should trace the path the part followed from manufacturer to the organization supplying the part.

How Far Back?

- Traceability should be available back to the manufacturer, but what manufacturer?
- If the manufacturer on the package and the documentation did not fabricate the die further documentation may be needed.
- Traceability documentation should trace the origin of the die, not just the packaged part.

Verification

- Part should be marked with part number, date code, manufacturer ID as a minimum
- These should be checked with documentation received to verify accuracy
- Ensure signatures are valid
- Ensure part is traceable from the current supplier all the way back to the manufacturer

Verification

- Any discrepancies in the documentation should be questioned immediately
- Any concerns about the path the part took from the manufacturer to the current supplier should be investigated
- The manufacturer should be contacted if warranted
- A third party should be contacted as appropriate (QML-DLA)

Summary

- Traceability is a tool which, when used properly, allows you to verify that the part you have received is the part you need.
- Traceability must be monitored and evaluated with every part received.