



TranSwitch ASIC Design Center (ADC) provides semiconductor design services to both OEMs and fabless semiconductor customers. Its highly skilled engineering staff has successfully designed over 100 ASICs (Application Specific Integrated Circuits) since 1996, with first time working silicon. TranSwitch offers Advanced Process Technology, Complete System on Chip (SoC) solutions, and an extensive IP portfolio.

TranSwitch ADC Strengths

- Highly skilled and experienced engineering staff with years of fabless ASIC experience
- Proven RTL to netlist to packaged tested parts methodology
- Support for full turn key flow – from specifications to silicon
- Extensive experience in complex SoC-based designs
- Support for analyzing signal integrity and power structure for die, package and board
- Significant networking and telecom IP portfolio
- Worldwide customer base
- Key manufacturing partnerships with world class companies such as Faraday, TSMC and Amkor

Product Development Offering

Development Option	Foundry/Packaging
ASIC	Faraday
Structured ASIC	
Customer Owned Tooling (COT)	TSMC & Amkor
FPGA to ASIC Conversion	

Full-featured, fabless ASIC company

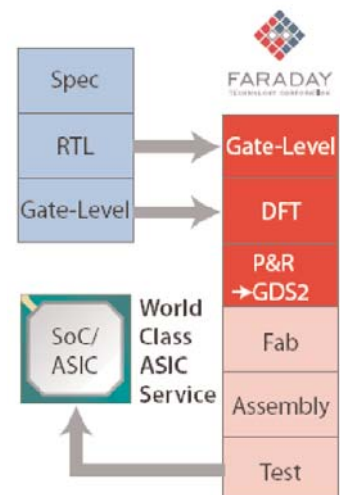
TranSwitch ASIC Design Center (ADC) designs customized silicon and FPGA-based solutions for its customers. In order to differentiate their platforms, some customers seek unique functionality that is not found in standard products. The ADC has access to an extensive array of IP cores and the expertise to work with customers to create customized solutions to meet their specifications.

TranSwitch has a state-of-the-art implementation design flow including synthesis, timing closure, physical design, design for test (DFT) and custom package layout. ADC also offers conversion of customer FPGA designs to ASIC in order to achieve a lower cost solution.

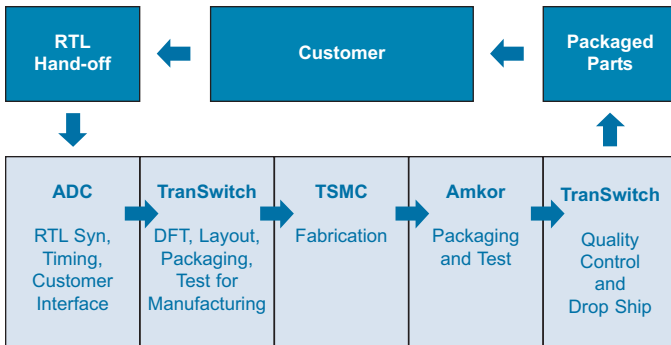
TranSwitch can provide guidance on the optimum choice of manufacturing partners as well. This includes an ASIC flow in partnership with Faraday and also a Customer Owned Tooling (COT) flow in partnership with TSMC and Amkor. For both the ASIC and COT flows, the ADC provides a variety of entry points to the customer including: functional specification, RTL, netlist or GDSII.

Structured ASIC Design & Manufacturing Flow

TranSwitch has a formal relationship with Faraday Technology Corporation and is its official representative in Israel and Europe. Our world-class team of experienced design engineers ensures successful implementation of customers' SoCs through Faraday's structured ASIC flow.



COT Design & Manufacturing Flow



Customers can choose our COT option which gives them access to world class IC manufacturing using TSMC for fabrication and Amkor for packaging, assembly and test. TranSwitch will accept an RTL handoff and manage the entire implementation and manufacturing process. We then deliver packaged, tested parts to the customer.

TranSwitch utilizes a proven, state-of-the-art design flow from RTL handoff, synthesis, timing closure, physical layout, design for test, and handoff to the TSMC foundry. Customers will also have access to TranSwitch's extensive communications IP which have all been silicon proven.

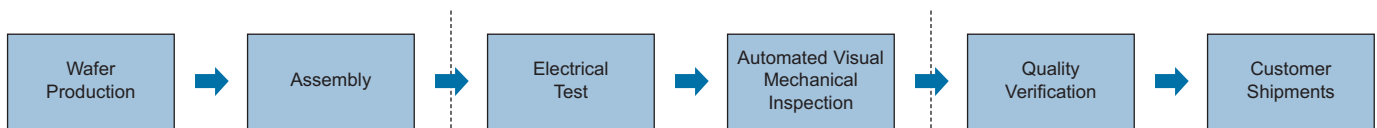
Technology

- Supports TSMC 65nm, 90nm, 0.13um, and 0.18um
- Supports Faraday/UMC 90nm, 0.13nm, 0.18um and 0.125um
- Supports Faraday structured ASIC platforms, design libraries and IP
- Primary tool flow is based on Synopsys IC compiler
- Advanced die/package co-design tools

IP Cores

- Arm architecture licensee
- Extensive list of high-speed I/O configurable SMII/GMII MACs, including SATA, PCIExpress, USB, SerDes and Ethernet
- Complete solution for 802.11a/b/g radio + MAC
- Consumer digital logic: JPEG, MPEG, VoIP
- Interface/peripheral logic: PCI, PCI-X, DMA, AHB/APB, flash memory card controllers
- Comprehensive list of ADC/DAC for audio codec, video codec, and sensors
- Foundation mixed-signal IPs: PLL, DLL, POR, OSC
- Transport protocol libraries: multi-rate SONET/SDH framers, POH terminators and generators, PDH E1/T1/DS3 framers and M13 multiplexers, DS0/DS1/STS-1 cross-connects
- Transport inter-working function modules: Ethernet over Sonet/SDH, Ethernet over PDH, PDH over Ethernet, VCAT modules

Fabless ASIC Manufacturing Flow



Fabless

Sourcing from industry leaders in wafer fabrication and packaging assembly

- Amkor
- TSMC

Outsource Test and Inspection

Industry leaders in test and inspection use state of the art equipment for processing TranSwitch products

- Amkor
- ASE Test Company

