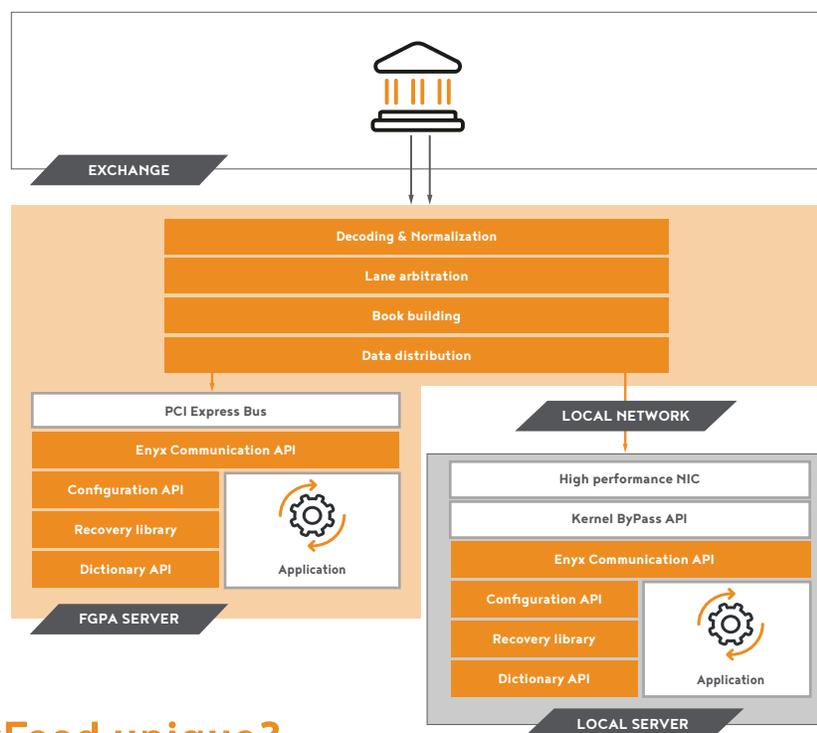# FPGA-based Market Data Processing
nxFeed

What is nxFeed?

nxFeed is a feed handler which streamlines market data application development by processing data feeds on FPGA and making them available to applications via a simple, normalized API.

Designed to complement trading applications or in-house ticker plant development, nxFeed will arbitrate, decode, normalize and build order books on a plug-n-play, FPGA-based NIC – significantly reducing application processing resources and overall latency.

This allows developers to focus on what they do best – build core business logic.

nxFeed reduces market data processing latency and server footprint compared to software-based solutions while also providing the flexibility for deployment as an in-application architecture using PCIe or distributed via UDP multicast over Ethernet.

EXCHANGE

Decoding & Normalization

Lane arbitration

Book building

Data distribution

PCI Express Bus

Enyx Communication API

Configuration API

Recovery library

Dictionary API

Application

FGPA SERVER

LOCAL NETWORK

High performance NIC

Kernel ByPass API

Enyx Communication API

Configuration API

Recovery library

Dictionary API

Application

LOCAL SERVER

What makes nxFeed unique?

PERFORMANCE

nxFeed filters unnecessary data by reducing the network and server load resulting in constant, deterministic, and jitter-free performance.

SIMPLE DEVELOPMENT

Integrate the nxFeed API in as little as one week with software simulators and no requirement to install dedicated FPGA hardware during development

PORTABLE

Our FPGA-based NIC can be deployed alongside your application on the same server, or as a feed handler serving data to many remote applications.

Check out all our supported venues at:
www.enyx.com/global-market-coverage

enyx

Paris | New York | Montréal | London | Hong Kong

nxFeed

Use case: In-house tickerplant

Advantages of deploying nxFeed as an in-house tickerplant:

- PCIe local delivery for an application running on the host server

- UDP Multicast over Ethernet distribution for up to 8 different normalized feeds
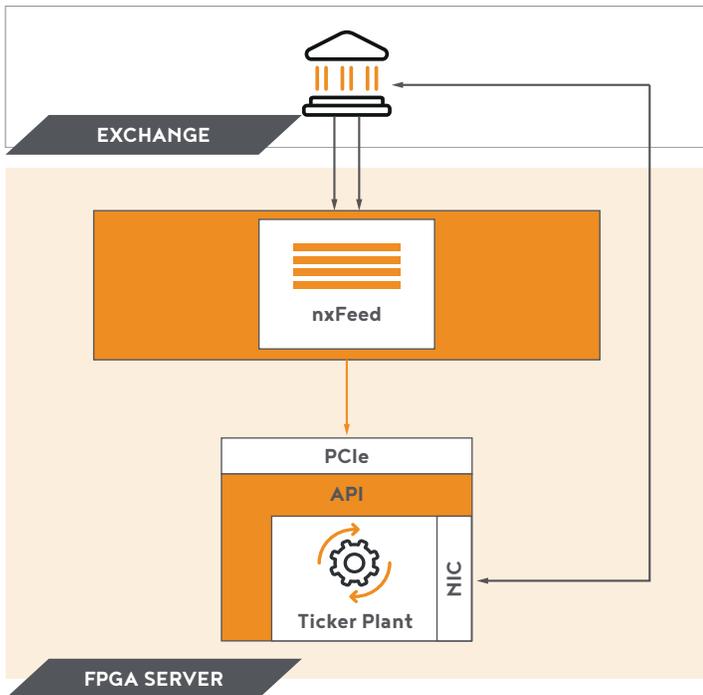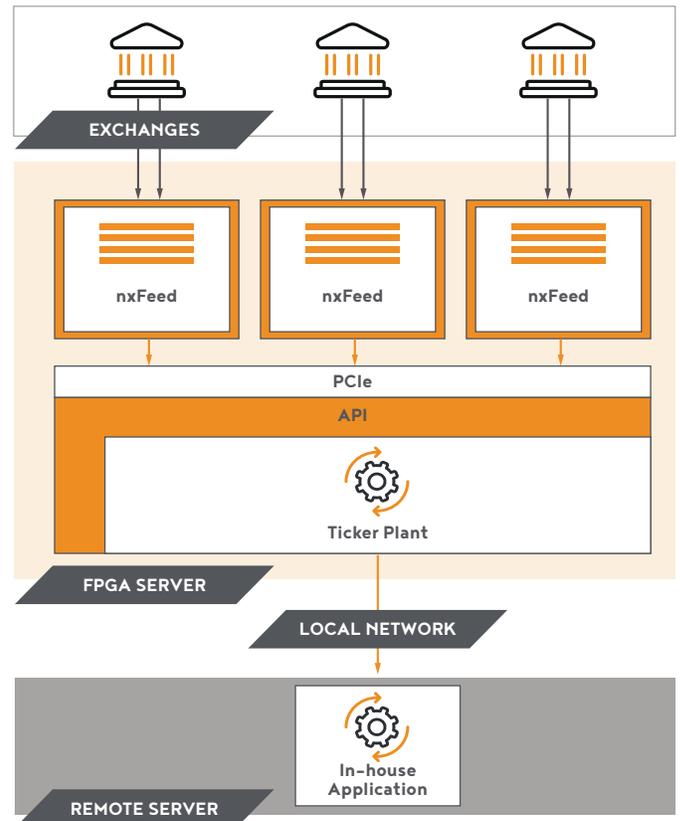
Use Case: ULL trading application

Advantages of deploying nxFeed as an ULL trading application:

- Delivery of market data updates over PCIe to application via C++ API

- Lowest latency configuration

- Initial step towards **nxAccess** – an FPGA-based trading engine

Specifications:

- Average latency **< 1.2 μs**
- Maximum latency **< 8 μs**
- Between 16-250k symbols per card
- Symbols / Message type / Book depth filtering
- By-Message A/B feed arbitration
- Exchange resynchronization
- Book-based & order-based market data updates

- Comprehensive APIs for configuration & symbology management
- Normalized protocol across venues
- TCP-based consumer resynchronization
- Extreme resiliency to bursts
- Monthly performance & EDC updates
- **Up to 8 Multicast outputs** with different publication configurations per FPGA