

PRODUCT SHEET



INTRADA SYNERGY SERVER

Vendor agnostic video license plate review
software with unparalleled performance



INTRODUCTION

Intrada® Synergy Server (ISS) is a high-performance image processing solution for video-based vehicle passages with the lowest operational cost for automated video passages in the market. Intrada® Synergy Server is camera and back office supplier agnostic providing flexibility to work with any existing or new system.

The Intrada® Synergy Server automation engine video analytics is project tuned to optimize read accuracy or error rate delivering unparalleled performance in over 160 countries worldwide. Intrada® Synergy Server deployments process millions of passages per day at unparalleled performance. Intrada® Synergy Server saves millions of dollars per year over the traditional image review systems currently deployed by many toll and parking operators worldwide.

A NEW IMAGE REVIEW PARADIGM

Q-Free is raising the bar with Intrada® Synergy Server by offering a new paradigm in image review systems to deliver unprecedented levels of performance. Intrada® Synergy Server provides an accurate, reliable, and predictable system that helps to avoid billing errors, leakage, and manual review loads, all of which are essential for smooth and cost efficient operations. Q-Free introduces new concepts to define the performance of a system for an operator and integrator more accurately and continuously pushes the bar.

License plate review system requirements are typically based on a single value confidence or accuracy level. Using these technical concepts to define overall system

performance is inherently risky for an operation and back office integrator. Most importantly: they fail to capture the predictability and reliability of the system. Intrada® Synergy Server combines several automation techniques combined with business logic, manual review, and self-learning feedback loops and advances beyond the traditional image review concept to achieve this predictability and reliability.

The primary performance measures for Intrada® Synergy Server are *automation rate and error rate* (or alternatively *read accuracy*). Automation rate is a measure of all passages that are human readable and automatable, and not excluded due to business logic (e.g. validating emergency vehicle exemptions).

Error rate specifies the percentage of correctly read automated passages and defines the (un)certainty of the automated results. Together they define the service level or performance of the image review system and allow reliable calculation of operating income and expenses.

Reducing uncertainty in the automated and manual results of a video processing system is pivotal for cost reduction and the only honest way to measure its value. This holistic across-the-enterprise approach has been proven to yield significantly greater performance than just in-lane OCR techniques. Intrada® Synergy Server has yielded operational cost savings of several million dollars per year compared to the existing image review system.

LOWEST OPERATIONAL COST

Q-Free Intrada® Synergy Server excels in delivering video solutions with the lowest operational cost in the market. It combines superior predictable system performance with a novel manual review process that greatly increases operator efficiency. After a short tuning period

to optimize for local conditions and customer requirements, Intrada® Synergy Server can reach $\geq 99\%$ automation rate with $\leq 0.05\%$ error rate / $\geq 99.95\%$ read accuracy.

Reliable automation rates and error rates have proven to help

reduce uncertainty in manual review resource planning and significantly reduce billing errors and leakage. Based on traffic volume history it makes fine grained resource planning and operational budgeting possible.

ACTIONABLE REPORTING

Real-time reporting is an integral part of the Intrada® Synergy Server solution. It provides all the necessary information for operators, integrators, manual support personnel, and Q-Free to monitor the health and service level of all facets of the operation. This makes it a valuable tool in identifying issues

in the infrastructure and whether contractual obligations are being met for proper video operation. In addition, it provides real-time Synergy Servers into traffic flow and system usage.

The technical status of the system is closely watched to identify potential bottlenecks or opportunities for

further performance improvements. Intrada® Synergy Server provides the means for system integrators and Q-Free to both closely monitor and tune their respective parts of the video system for maximum stability and throughput without hindering live system operation.

SCALABLE PERFORMANCE

Q-Free Intrada® ALPR (Automatic License Plate Recognition) is a core technology for Intrada® Synergy Server and used worldwide in traffic cameras, parking systems, low-emission zones, congestion charging schemes, among many others. It has leading accuracy, worldwide support and proprietary character recognition filters and processing for use in many adverse conditions.

Another core technology is Intrada® VSR (Vehicle Signature

Recognition). Intrada® VSR creates a unique vehicle signature or fingerprint that allows storing and re-recognizing vehicles that were previously manually reviewed. A second application is grouping passages (patented) without necessarily recognizing the license plate. Grouping also allows different images and manual input to be used for final recognition of a vehicle.

Intrada® Synergy Server can be scaled to any project size. Traffic

volume increases, intermittent backlogs, as well as operation expansions can be comfortably accommodated. Q-Free Intrada® Synergy Server can be readily updated when new technology improvements are developed. It allows operators to extend the useful life of the system and further increase their operational excellence. Intrada® Synergy Server always produces the highest read accuracy rates, or lowest error rates, and leading automation rates.

Automation Performance

- Intrada ALPR
- Intrada VSR
- Grouping
- Multiple OCR engines
- Trusted plates and signatures
- Selective sampling

Robustness and Scalability

- Vertical and horizontal (dynamic) scalability
- Persistence
- Crash-tolerant
- Automated backups

Identification Options

- List-based identification and queuing
- First-N-seen assurance
- Use roadside ALPR results and metadata
- Pass-through and enriching of received metadata
- People / driver masking
- User configurable identification options

Extended Video Analytics

- Car model and make recognition (MMR)
- Vehicle color recognition
- Vehicle class identification

Reporting

- Audit trail per passage
- Operations performance
- System performance
- Image quality monitoring

Information Security

- Single Sign-On (SSO) compatible
- SSL encryption
- Authentication and password enforcement
- LDAP support
- One-way password encryption
- Configurable retention policy
- Vulnerability and patch management program

BENEFITS

- Lowest operational cost.
- Reliable and predictable automation of video based solutions enables operational cost reductions and revenue maximization.
- Guaranteed low error rates minimize erroneous billing and enhances the customer experience.
- Reduced solution complexity through seamless and transparent integration with any camera, back office, and vehicle registration system.
- Proven technology used around the world in large scale tolling and charging applications by industry-leading operators and integrators.

FEATURES

- Automation rates up 99% with a read accuracy of up to 99.95% / 0.05% error rate.
- Supports over 160 states and countries worldwide including new plate styles and all plate types issued in North America.
- Customizable business rules and business logic to integrate with existing business systems, processes and 3rd party interfaces.
- Video performance and system reports provided out of the box.
- Supports any lane or entry/exit image capture system and all major back office platforms.
- Transparent integration in any road user charging system.

REFERENCES

- Florida Turnpike Enterprises, United States
- Texas Department of Transportation, United States
- Tunnil, Faroe Islands
- Far Eastern Electronic Toll Collection, Taiwan
- Don Muang Tollway, Thailand
- Trondheim Parkering, Norway

TECHNICAL SPECIFICATIONS

Interface	SOAP (XML)
Image format (direct)	Base-64 encoded JPG or TIF
Image resource URL	FTP, HTTP(S), SMB
Data storage	Volatile (normal operation) Configurable retention policy (manual review)
Deployment	Cloud Virtual / Native On-Premise

CONTACT US

www.q-free.com

For more information, contact sales.intrada@q-free.com
Specifications are subject to change without prior notice.

Q-Free Netherlands B.V. is an **ISO27001** accredited company.
Copyright© Q-Free 2020. All rights reserved. Document revision 20201218

