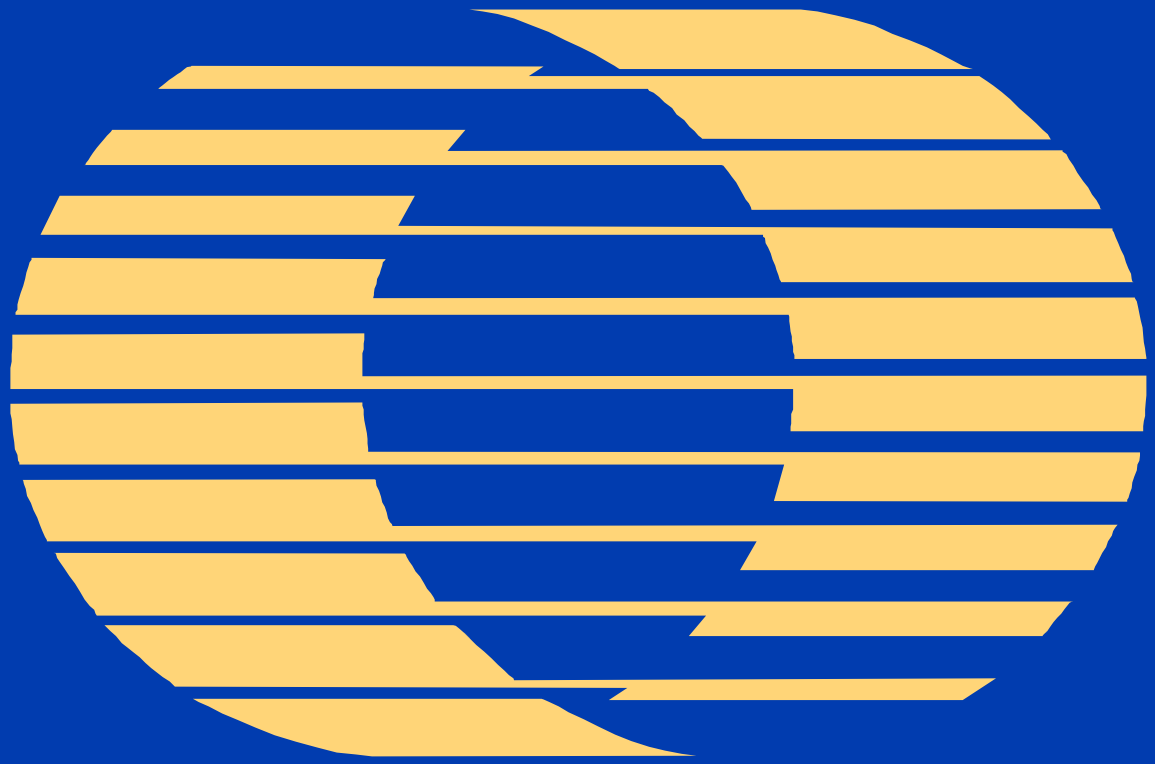

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The Broad Vision of Integrated Airport IT Systems

Solutions and Benefits

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Greater Orlando Aviation Authority
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AGENDA

- IT systems contributions to increasing passenger and baggage processing capacities
- IT systems contributions to improving processes for management and maintenance of facilities
  - traditional "landlord" facilities and systems
  - transferred "airline" facilities and systems
- IT systems integration
  - Methods
  - Guidelines
  - Enablers
  - Benefits

GOAA (MCO) CASE BACKGROUND

- GOAA planned an additional terminal complex, the South Terminal Complex (STC) - based on passenger forecasts prior to 9/11
- 9/11 had an enormous impact on our leisure passengers, families in particular, and resulted in deferral of the STC
- Recent passenger growth and forecasts have resulted in a re-start of the design of the STC
- In the interim plans and actions have been on increasing capacities in the North Terminal Complex (NTC)

Orlando International Airport North Terminal Complex

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STC Site 2006

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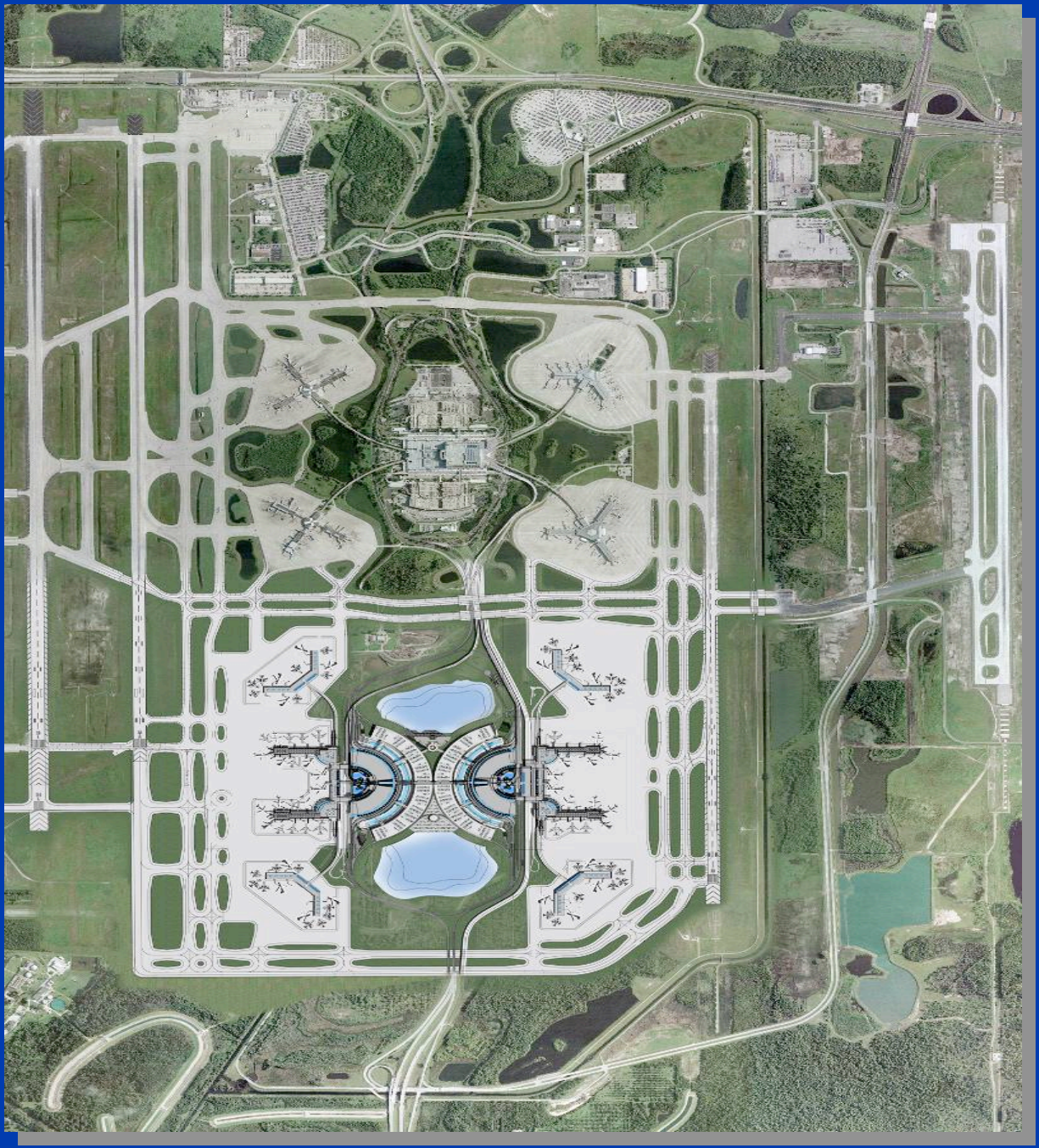
South Terminal Complex



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IT Systems Contributions

NTC Capacity Improvements

- Common use systems replace exclusive use systems to enable optimum use of resources
  - Common use terminal equipment (CUTE) for agent attended boarding control at TC's and gates
  - Common use self service (CUSS) for passenger boarding control at self-service kiosks.

    [Exclusive use self-service increases capacities but limits use so these are to be replaced with CUSS.]
  - Common use flight information systems (MUFIDS)
  - Common use baggage claim information systems (BIDS)

IT Systems Contributions

NTC Capacity Improvements (Continued)

- Dynamic signage for roads and terminals due to flexible allocation of ticket counters (TC) and bag claim belts and gates
- Registered traveler (CLEAR) program provides an express lane – not dedicated lane at checkpoints.
  - once validated using fingerprint and iris, passenger goes to the head of a line for TSA screening
  - once validated there is no secondary search
  - more than 22,000 travelers have subscribed for MCO
  - similar to express lanes on toll roads, the CLEAR lanes reduce the backups at the non-CLEAR lanes

IT Systems Contributions

NTC Capacity Improvements (Continued)

- Common use WiFi distribution system for both public and private use (802.11a, b, g)
  - public
    - Internet (fee free for end users)
  - private
    - curb-side and mobile check-in
    - positive bag match (baggage reconciliation)
    - aircraft fueling
    - aircraft to ground data exchange
    - Disney Magical Express (DME)

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In-Line Baggage Screening System

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IT Systems Contributions

NTC Process Improvements

- Improvements and enhancements to
  - resource allocation process automation such as for TC's, gates, hard stands, baggage claim belts, other
  - financial process automation in response to business model changes in 2008 [residual model to mixed model]
  - facilities and systems management process automation including for those systems "inherited" from airlines, and invoicing for those services
  - building automation systems for remote control and monitoring of elevators, escalators, power, lighting, …

IT Systems Contributions

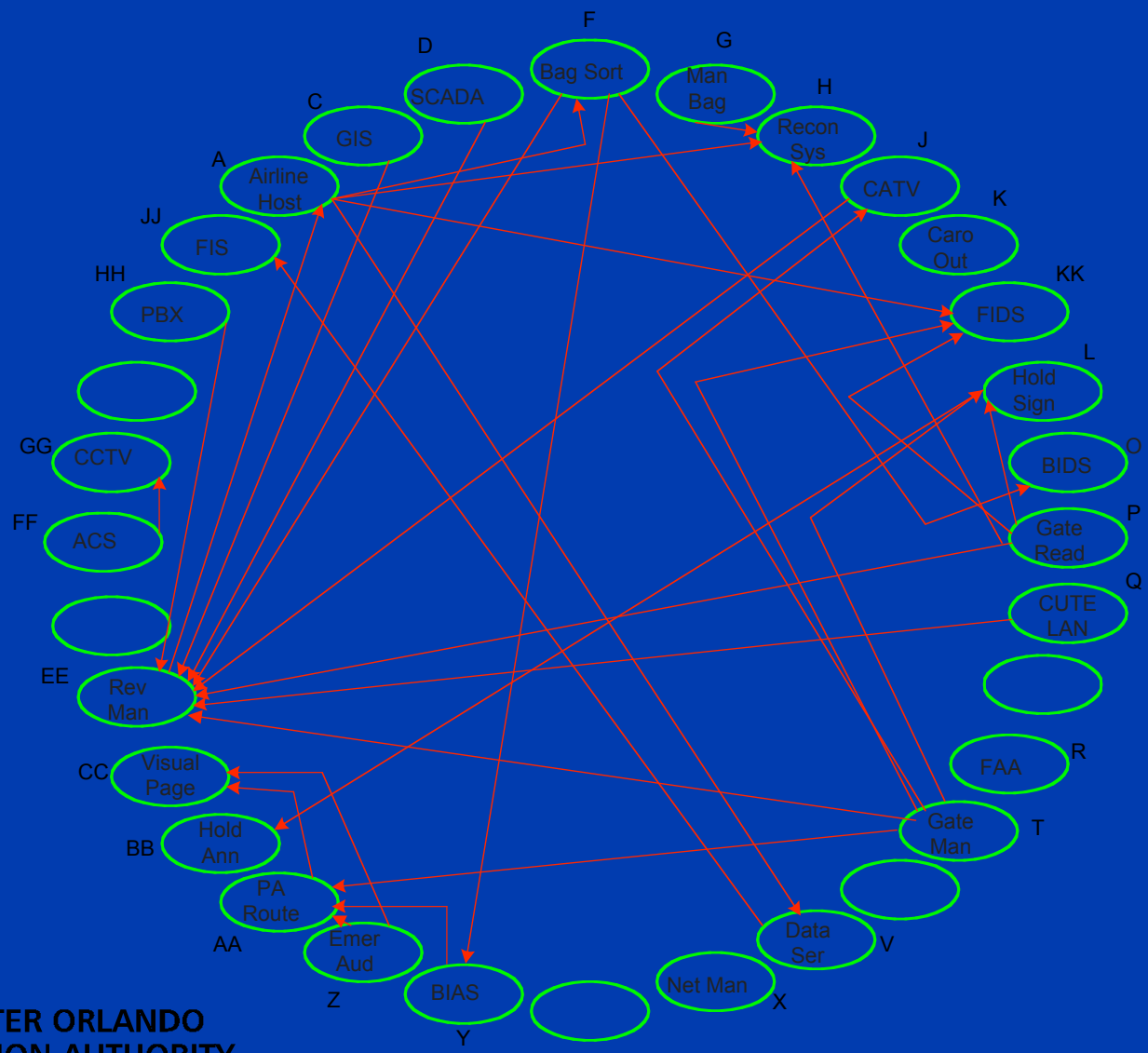
NTC Process Improvements (Continued)

- Improvements and enhancements to
  - Access control and surveillance systems
  - Voice communications systems
    - Telephones, including commencement of transition to VOIP
    - Interactive Voice Response (IVR) system for State of Florida 511 system and other "menu" applications (e.g., flight times)
    - Integrated voice and data messaging systems (e.g., voice mail and email)

IT Systems Integration

- These IT Systems examples use common infrastructure and interface standards and an initial phase of integration (automated exchange of data and event information)
- These and other IT Systems are candidates for more integration in successive, funded phases

CUSTOM INTERFACES
(Multiple Interfaces for Numerous Applications)



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IT Systems Integration Methods

- "Big Bang" approach to integration in a "greenfield" airport or terminal
  - Major up front investment, jeopardising ROI
  - Major up front risks (functional, schedule, $)

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IT Systems Integration Methods

- "Business Case" approach to integration in existing airports or terminals
  - Decisions to enable data exchange among IT systems based on assessment of business needs and greatest return on investment for each phase
  - Phased and thus limited risks (functional, schedule, $)

IT Systems Integration Guidelines

- Evaluate each IT system for simple, flexible design to reduce the impacts of future IT system updates and expansions
- Evaluate each IT system for fault-tolerant design and fail-operational components
- Defer IT system specifications and procurement as long as possible to minimise technical obsolescence

IT Systems Integration Guidelines
(CONTINUED)

- Research and validate each system's interface mechanisms before selection
  - Open standards compliant databases (ODBC)
  - Open documented application interfaces (API)
  - Open standards compliant data exchange mechanisms (XML)
- Eliminate custom interfaces to the extent possible
- Limit the total number of interfaces

IT Systems Integration Guidelines
(CONTINUED)

- Research and validate each system's function and performance claims before selection.

Please note that the recommendation is pre-qualification of several products. This does not limit competition to one product, or one product distributor, or one integrator or one construction contractor.

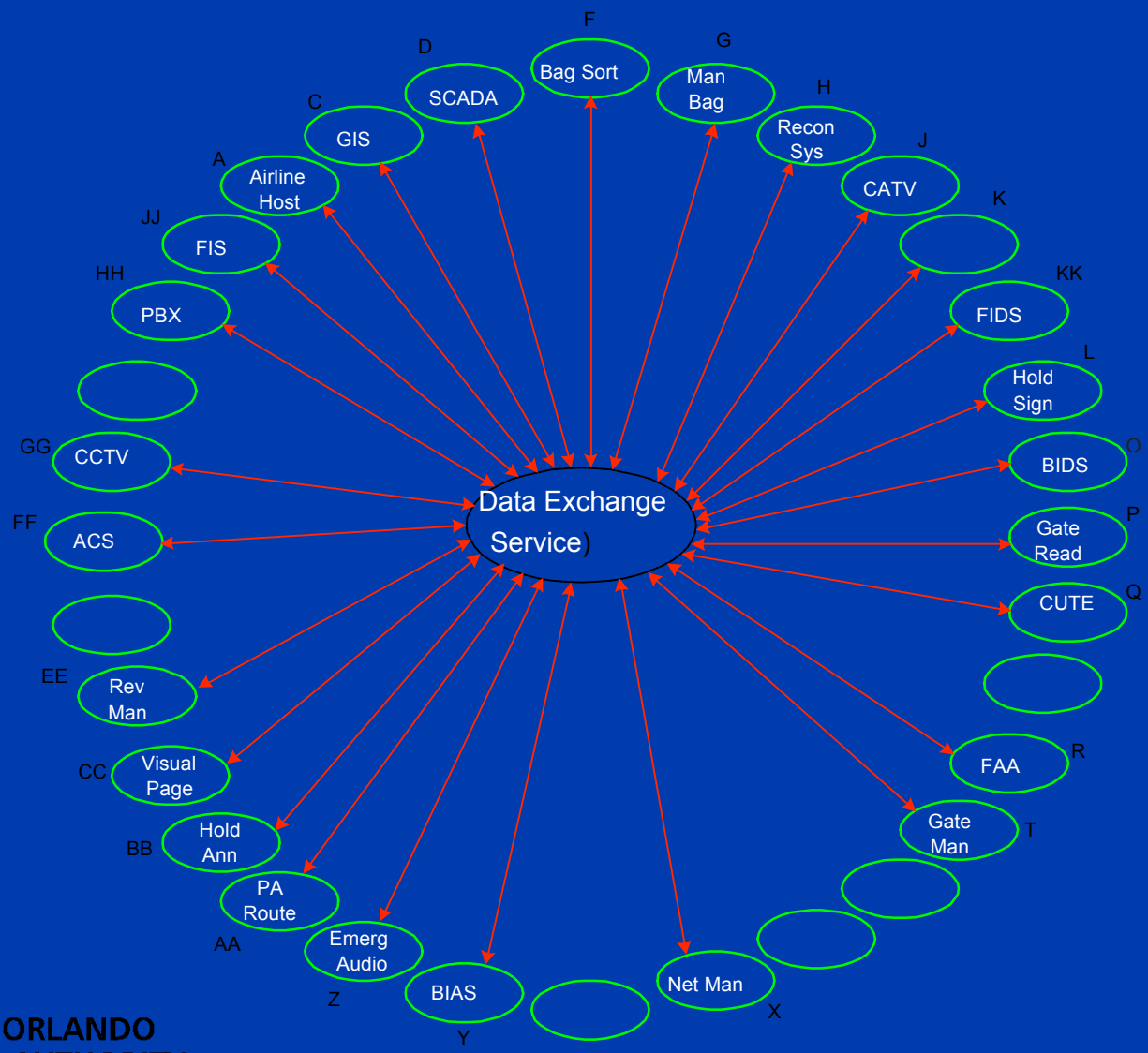
IT Systems Integration Enablers

- Common, flexible communications infrastructure
  - diverse ductbanks, conduit, fiber and copper and reserve capacities – there is never too much
  - communications "rooms, not "closets", that contain active electronic equipment and must be conditioned and secured – no more sharing with electrical and mechanical systems.
  - carrier-class communications electronics with fault tolerance and fail-operational components (IP is the common denominator)

IT Systems Integration Enablers
(CONTINUED)

- Common data and event information sharing mechanism, or "clearing house"
  - Open standards compliance as for IT systems interfaces, and fault tolerant and fail-operational, etc.
  - One interface and associated information on format and business rules is then sufficient to communicate to the other IT systems. One interface to build, and to maintain moving forward

COMMON INTERFACES
(Single Interface for Each Application)



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Benefits of a Well Planned IT and Integration System

- Operational
  - Decrease personnel roles (lean processes)
  - Decrease time to respond
  - Increase value of response (more accurate)
  - Improved regulation compliance (reporting)
- Financial
  - Decrease personnel expenses
  - Decrease capital and recurring expenses
  - Improve revenue collection

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THANK YOU

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