

ITWS

Integrated Terminal Weather System

Airline Connectivity

Des Keany
American Airlines SOC

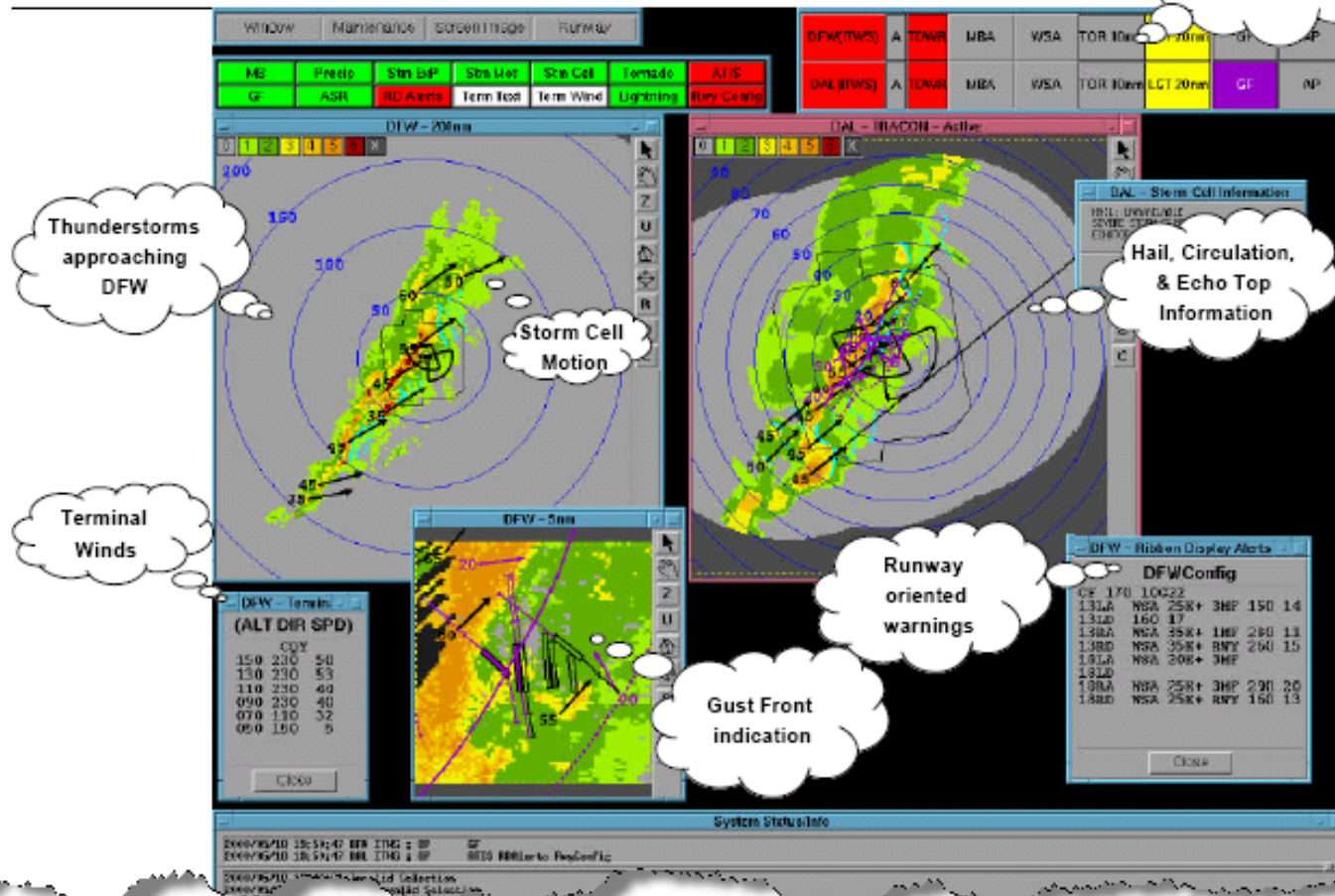
Benefits

- Airline and the FAA are working off the same product (fewer misunderstandings)
- ATC Coordinators use the forecast and wind function for
 - Runway configuration planning
 - Arrival rates.
- Dispatchers can provide real time information to flight crew.
 - This reduces diversion risk

ITWS Data

Guidance Products

ITWS



Website Interface

ITWS Airports

Click for
TRACON
Display

[Color of icon
shows status]

Airport
Status
Legend

The screenshot shows a web browser window titled "ITWS - Map - Integrated Terminal Weather System - Mozilla". The page header includes the Federal Aviation Administration logo, the title "Integrated Terminal Weather System", and "Interface Version 1.6". It also displays "Text Version", "Page updated: 03/24/2004 15:34:12 GMT", and links for "Online Help" and "Back to Main".

The main content is a map of the United States with various airports marked. A legend at the bottom identifies the status of each airport:

- Red diamond: Active Alerts
- Green circle: Operational
- Yellow diamond: TRACON Storms Tracked
- Black diamond: Not Available

Arrows from the text boxes on the left point to specific elements on the map: one points to a red diamond at MCI, and another points to the legend.

Prototype ITWS

- For many years American Airlines had access to the Lincoln Labs prototype system
- Dispatchers could access via the web.
- ATC Desk used a dedicated terminal.
- Advantages
 - Direct access to the prototype application
 - Low cost of ownership
- Disadvantages
 - Very few sites e.g. DFW, New York, MCO, MEM

Production ITWS

- High Cost of access
 - Only available via private wire connection
 - Not available via AOC/CDM Net
- Normally available as a browser display only
 - Users have to be aware and keep the display open
 - Not all features work on the web version
- Airlines can obtain a raw data feed
- Major increase in number of available sites.
- Can view multiple sites simultaneously

Desktop Configuration Example 1

The screenshot displays four windows from the Integrated Terminal Weather System (ITWS) running in Mozilla. The windows are arranged in a 2x2 grid. The top-left window is titled "ORD:TRACON ITWS Products - Integrated Terminal Weather System - Mozilla". It shows a weather map for ORD TRACON with a time of 19:51:33. The map displays radar data with green and yellow areas, and a scale of 40-40. The top-right window is titled "IAD:TRACON ITWS Products - Integrated Terminal Weather System - Mozilla". It shows a weather map for IAD TRACON with a time of 19:51:31. The map displays radar data with green and yellow areas, and a scale of 40-40. The bottom-left window is titled "ORD:RDAIerts ITWS Products - Integrated Terminal Weather System - Mozilla". It shows a list of alerts for ORD RDAIerts, with a time of 19:51:32. The bottom-right window is titled "DCA:RDAIerts ITWS Products - Integrated Terminal Weather System - Mozilla". It shows a list of alerts for DCA RDAIerts, with a time of 19:51:32. The desktop background is blue, and the taskbar at the bottom shows the system tray with the date "Wed Mar 31 2:54 PM" and several application icons.

ORD:TRACON ITWS Products - Integrated Terminal Weather System - Mozilla

ORD TRACON

MBA WSA TOR 10nm LGT 20nm GF 20min AP

Time (GMT) 19:51:33

AIRPORT ORD

DISPLAY TRACON

NEW APPLY

Online Help

Open Main

Close Window

ORD:TRACON Valid Until: 03/31/2004 19:54:14 GMT

UNAVAIL: NONE

IAD:TRACON ITWS Products - Integrated Terminal Weather System - Mozilla

IAD TRACON

MBA WSA TOR LGT GF 20min AP

Time (GMT) 19:51:31

AIRPORT IAD

DISPLAY TRACON

NEW APPLY

Online Help

Open Main

Close Window

IAD:TRACON Valid Until: 03/31/2004 19:54:11 GMT

UNAVAIL: Tornado Alert, Lightning, Strn Mot, Strn ExP, Strn Cell, Tornado

ORD:RDAIerts ITWS Products - Integrated Terminal Weather System - Mozilla

ORD RDAIerts

PLAN - B

Time (GMT) 19:51:32

AIRPORT ORD

DISPLAY RDAIerts

NEWAPPLY

ORD:RDAIerts Valid Until: 03/31/2004 19:55:38 GMT

AW	170	16
228A	180	16
228D	180	14
221A	170	13
221D	170	14
091A	180	14
091D	170	13
271A	170	10
271D	170	12
141A	170	19
141D	170	13
148A	170	15
148D	170	13

MDW:RDAIerts ITWS Products - Integrated Terminal Weather System - Mozilla

MDW RDAIerts

CONFIG - 4

Time (GMT) 19:51:32

AIRPORT MDW

DISPLAY RDAIerts

MDW:RDAIerts Valid Until: 03/31/2004 19:54:37 GMT

AW		
228A		
228D		
221A		
221D		
311CA		
311CD		

DCA:RDAIerts ITWS Products - Integrated Terminal Weather System - Mozilla

DCA RDAIerts

north

Time (GMT) 19:51:32

AIRPORT DCA

DISPLAY RDAIerts

DCA:RDAIerts Valid Until: 03/31/2004 19:54:50 GMT

AW	250	12
04 A		
04 D		
01 A		
01 D		
33 A		
33 D		

Print Manager
Set up and monitor printers

ITWS - Map - Integr IAD:TRACON ITWS ORD:RDAIerts ITWS
DCA:RDAIerts ITWS ORD:TRACON ITWS MDW:RDAIerts ITWS

Wed Mar 31 2:54 PM

Desktop Configuration Example 2

The screenshot displays a desktop environment with three panels for IAD, DCA, and BWI airports, a central weather map, and a taskbar.

IAD:RDAlerts ITWS Products - Integrated Terminal Weather System - Netscape

IAD RDAlerts

Time (GMT): 16:34:32

AIRPORT: IAD

DISPLAY: RDAlerts

AW: 30 D, 01LA, 01LD, 01PA, 01PD

IAD:TRACON ITWS Products - Integrated Terminal Weather System - Netscape

IAD TRACON

Time (GMT): 16:34:32

AIRPORT: IAD

DISPLAY: TRACON

NEW APPLY

Navigation icons: Home, Up, Down, Left, Right, Z, U, Home, O

[Online Help](#)

[Open Main](#)

[Close Window](#)

DCA:RDAlerts ITWS Products - Integrated Terminal Weather System - Netscape

DCA RDAlerts

Time (GMT): 16:34:31

AIRPORT: DCA

DISPLAY: RDAlerts

AW: 04 A, 04 D, 01 A, 01 D, 33 A, 33 D

BWI:RDAlerts ITWS Products - Integrated Terminal Weather System - Netscape

BWI RDAlerts

Time (GMT): 16:31:19

AIRPORT: BWI

DISPLAY: RDAlerts

AW: 10 A, 10 D, 04 A, 04 D, 15RA, 15RD, 15LA, 15LD

Weather Map

MBA WSA TOR 10nm LGT 20nm GF 20min AP

STORM CELL INFORMATION

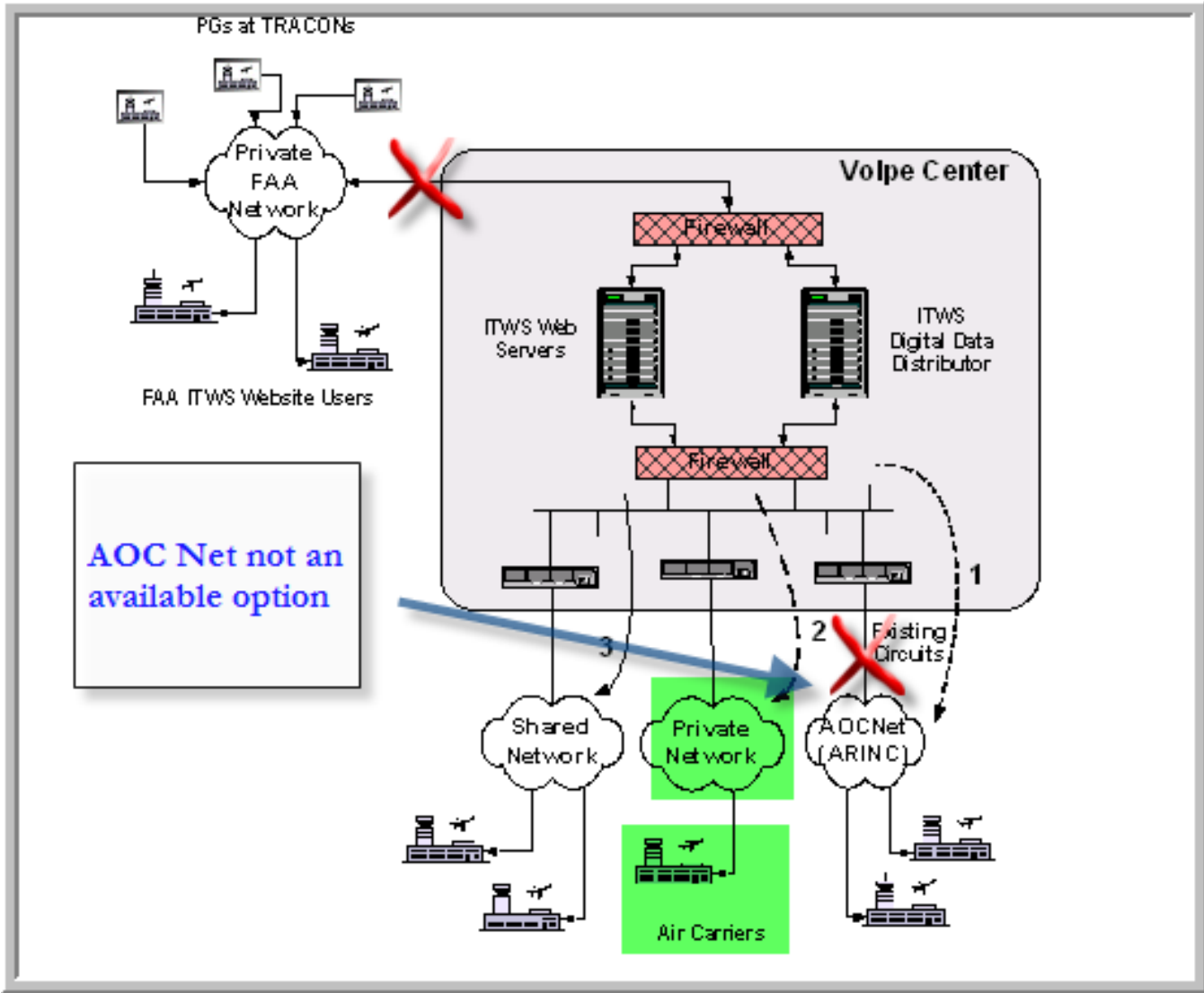
ECHOTOP: 230

IAD:TRACON Valid Until: 04/14/2004 16:36:05 GMT

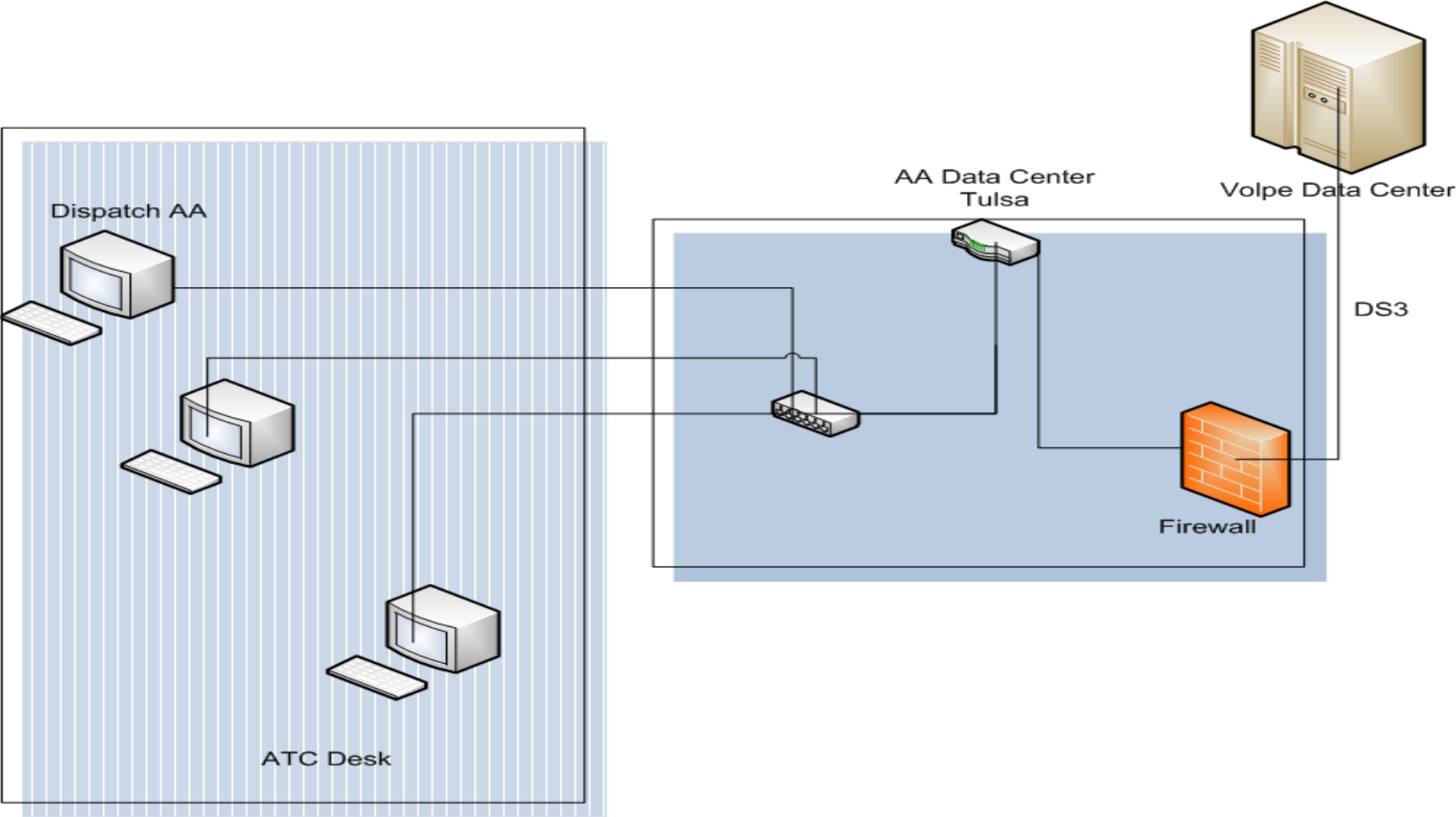
UNAVAIL: NONE

Taskbar: Start, ITWSweb..., ITWS..., IAD:TR..., IAD:RD..., DCA:RD..., BWI:RD..., Adobe..., 9:38 AM

ITWS Connectivity Options!



American Airlines Connectivity



Connectivity - Issues

- American Airlines originally connected to the production site via a T1 connection.
- This worked for about 15 simultaneous users.
- Have a need for 30-35 users at AA
- American Eagle need 10-15 additional
- Switched from T1 to bundled T1's to DS3
- Bottom line – expensive

The Future - SWIM

- ITWS Prototype Service
 - Deliver ITWS data over the Internet, using Virtual Private Network (VPN) technology
 - Distribute real-time ITWS digital data in an industry-standard data format (XML)
 - Slated to being in September 2008
 - Initial Deliverables
 - Microburst
 - Gust Front
 - Configured Alerts (Ribbon Display)
 - Terminal Text

SWIM Methodology

- Advantages
 - Delivered in XML format and thus easier to integrate.
 - If successful, expect more and more data types to be added.
- Disadvantage
 - Necessary to commit scarce resources to a long term project.
 - Airlines outsourcing/purchasing 3rd generation products from vendors.
 - Need to integrate data. Not really useful as a standalone data set.

Questions ??