



IBM FORUM 06

Results through Innovation



# The Yakka OCS

*(Outfitting Capture System)*

*- An Innovative use  
of RFID*

what makes you \*  
special?



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what makes you \*  
special?



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what makes you \*  
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## Quote

- Sun Tzu said: Whoever is **first** in the field and awaits the coming of the enemy, will be fresh for the fight; whoever is **second** in the field and has to hasten to battle will arrive exhausted.

# Quote

- An army marches on its stomach

*Equally*

- An army marches **best** in boots and uniforms that fit!

# But warriors are not tailors...

- 1<sup>st</sup> Value partnership
- NZDF and
- Yakka Apparel Solutions

# Required Service Level

- To kit a recruit with
  - **all** entitlements
  - **all** correctly sized
  - **all** within the first week of enlistment (5 days)

# ..and tailors are not IT experts

- 2<sup>nd</sup> value partnership
- Yakka Apparel Solutions
- Integral Technology Group

But

*An intake is a complex process....*



# The Problem

- The service level agreement was not being met.

# Yakka's challenges

- Process wasn't optimal ***at their clients end***
- External factors affecting their ability to achieve the Service Level Agreements

# Moving the Problem Forward

- Partnership approach
  - **YAKKA** co-operation with NZDF forces
  - **Integral Technology Group** - technical coordination & solution prototyping

# Resolving the Problem

- Brainstorming the process
  - *What technology exists to make an otherwise slick process slicker?*

# Resolving the Problem...

- Need a pinch point to trap:
  - People
  - Garments
- Two candidate technologies
  - RFID (Radio Frequency Identification Device)
  - Barcodes



# Barcoding

- Pros
  - Unique, controllable ID
  - Can be scanned using common scanners
- Cons
  - Need to be on outside of product to be read
  - Needs accurate, flat scan
  - Laser annoyance for recruits (esp around head)

# vs... RFID

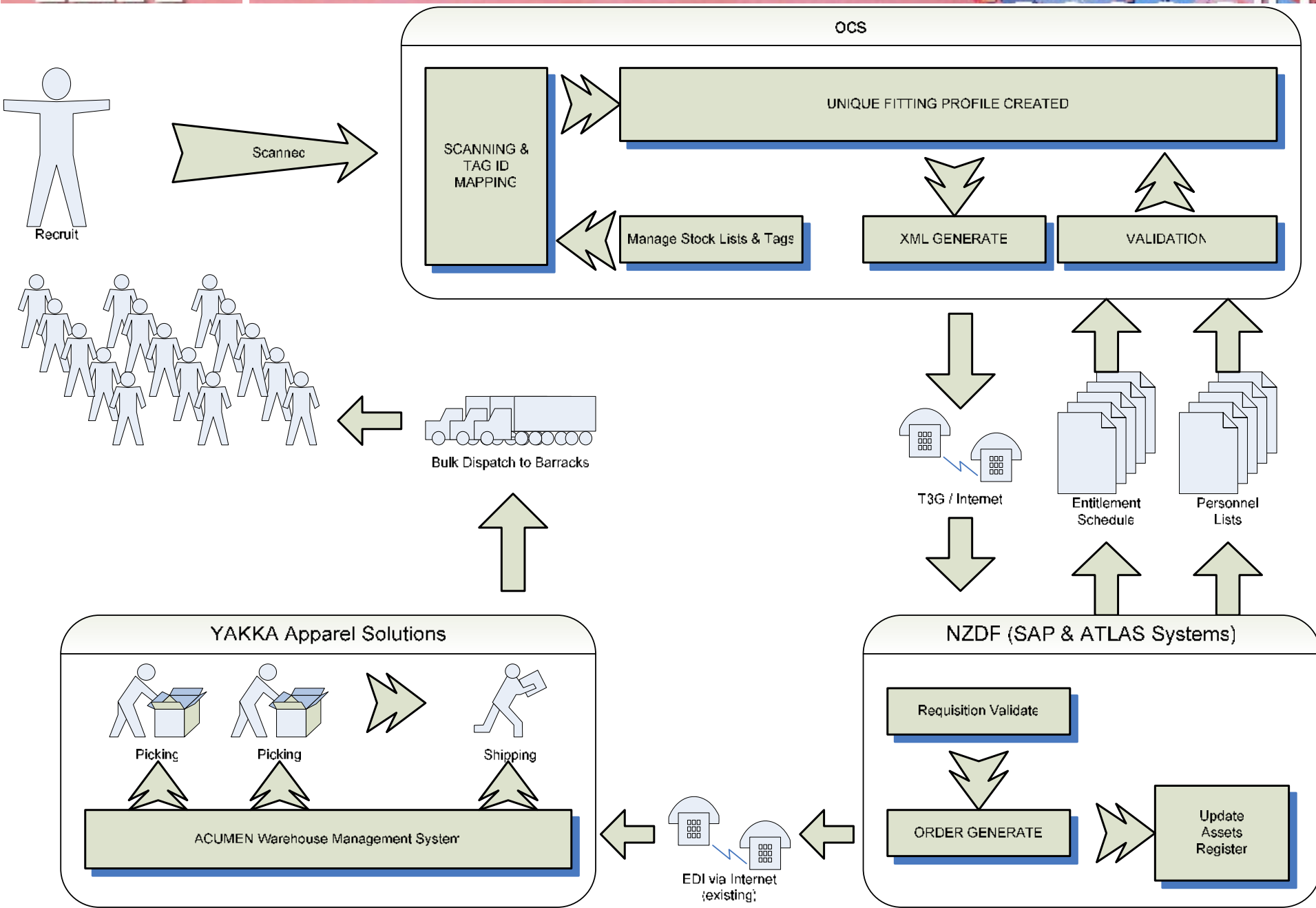
- Pros
  - Readable through layers of clothing
  - No physical contact needed for scan
  - No laser annoyance
  - Washable, VERY robust in “wafer” format
- Cons
  - Class 1 tags – unique ID preset
  - Readers not so common



# The Winner : RFID

But some flow-on implications too:

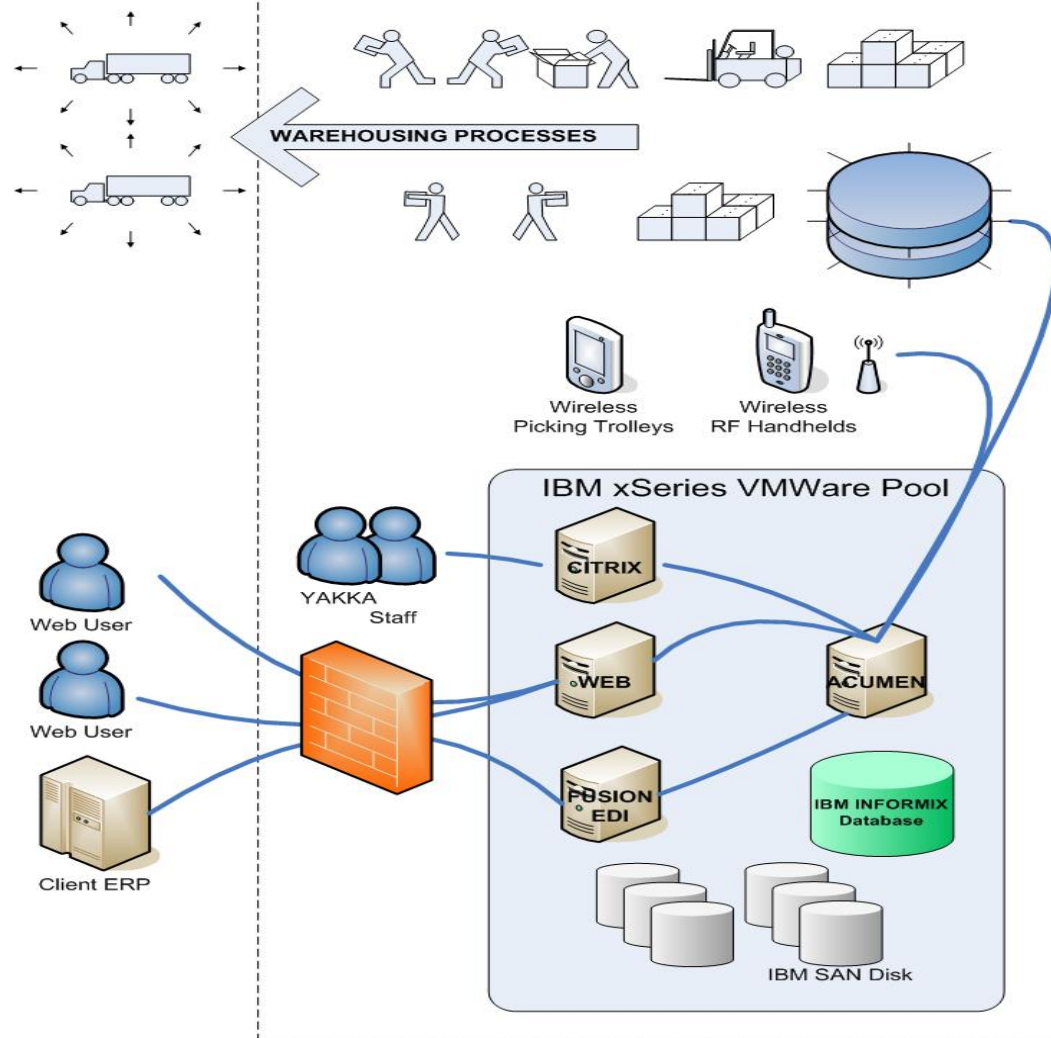
- Only Class 1 tags (unique ID, VHF, cost-effective)
- OCS program must handle mapping garment IDs to fixed tag IDs
- Interfacing through BlackRoc handheld scanners
- Each NZDF base must maintain its own tagged sample stock
- Tags reusable, but only once sizing stock life exceeded
- But OSH/safety issue of laser “flash” negated



# What we deployed - “the techo stuff”

- Standalone Windows PC, running the capture module
- XML requisition posted through SMTP email to SAP, via a Telecom T3G internet connection
- Existing SAP-Integral ACUMEN warehousing system (at YAKKA) EDI links took order to process / consign / dispatch
- NZDF SAP noted asset assignments internally

### YAKKA APPAREL SOLUTIONS



# The Benefits (NZDF)

- Guaranteed accuracy
- Order processing time cut by more than two days
- Demonstrated business commitment from Yakka.

# The Benefits (NZDF)

- Saving of labour by automation
- Faster progression of the recruits onto deeper training
- Moral – soldiers perception

# Benefits for Yakka

- SLA's met
- Yakka systems excellence highlighted, not hidden
- Improved Yakka - client relationship

# Where to from here?

- Navy already in use; Airforce to come
- Flow-on use to any YAKKA uniform client eg NZ Fire Service, etc
- New possibilities
  - Full Asset lifecycle management for expensive items (eg fireproof suits)

# RFID Possibilities

- Useful wherever embedded asset management is required
  - Unobtrusive, even to read
  - Consistent read ability, can be used in limited physical tracking
- Class 2/3 tags are writeable - they have 2/4Kb of flash RAM...  
Items can then “speak for themselves”
  - From x-ray machines to concrete pipes
  - Opportunities for business leadership in item management
- Volume item management possible (incl. encrypted data storage )
- More opportunities as technology becomes widespread

# IT Lessons Learned

- Perfection is a journey!
- More planning less problems – but with people, prototyping may be the only way.
- Importance of partnership
- Objective end to end process reviews

The text "IBM FORUM 06" is displayed in a white, sans-serif font. The "06" is slightly smaller and positioned to the right of "FORUM".

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The words "Thank You" are written in a large, white, sans-serif font, centered on the page.

Thank You

The text "what makes you \* special?" is written in a white, sans-serif font. The asterisk is a small, stylized symbol. The word "special?" is significantly larger than the preceding text.

what makes you \*  
special?

# The outfitting process challenges

- Complex –
  - 32 +/- recruit item entitlements (Army)
  - Gender / rank specific items
  - Some items fixed, some non-sized
- Laborious – manually demanding
- High expectations – stringent timeframe, absolute accuracy

# Second Challenge: Deployment

- Standalone system, with failover options
- Specific user workflow to achieve
- Specific system dataflow to achieve
- **Had to be robust**

# Kitting process - after

- Recruits arrive on-base: Day 1
- Fittings undertaken Day 2; requisitions generated, approved & ordered with YAKKA within the hour.
- Order Picking commences from SLA-driven stock
- Orders dispatched Day 2, arrive Day 2/3